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HISTORY OF THE DEVELOPMENT OF NEUROPSYCHIATRY IN THE EUROPEAN THEATRE OF OPERATIONS

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The primary purpose of this discussion is to record, in a general manner, the neuropsychiatric problems encountered in the U. S. Army in the European Theatre of Operations from the time of its activation, early in 1942, to V. E. Day, May 8, 1945, and the steps taken to meet these problems. This does not include a discussion of the Neuropsychiatric Activities of the Mediterranean Theatre which have been described in other publications.

The original plans for the treatment of neuropsychiatric cases provided for them to be cared for by the NP. sections of station and general hospitals in the theatre. Here the cases were admitted, therapy administered, and, following treatment, those able returned to duty. The more serious cases, those found even after treatment not capable of duty, were disposed of according to the theatre policy. This procedure was followed during the year 1942 but was found to be not entirely satisfactory as there had been no provisions made in the physical plants of these hospitals to care for the acutely psychotic cases. These were cared for, until the establishment of the first specialized NP. hospital, in British mental hospitals. It was likewise found advisable to coordinate the neuropsychiatric activities of the theatre, and on August 12, 1942, Colonel Lloyd J. Thompson was appointed senior consultant in neuropsychiatry in the Office of the Chief Surgeon.

In June 1942, a 250 bed station hospital, the 36th Station Hospital, was activated at Camp Rucker, Alabama. This unit was established on an experimental basis as there was at that time no authorized tables of organization for a specialized NP. hospital. It was based somewhat on Base Hospital 117 of World War I which had functioned in France during the latter months of that war as a specialized NP. unit. The 36th Station Hospital, Colonel Ernest H. Parsons commanding, was established in Exeter, Devon-

shire, England, January 23, 1943, and functioned as the first specialized NP. hospital in the theatre.

As the troop strength of the U. S. Army in the E. T. O. increased, definite neuropsychiatric problems arose. Needs as they developed were found to be, (1) facilities for the diagnosis and treatment of salvable neuropsychiatric cases, (2) facilities for the neuropsychiatric screening of combat units (pre-invasion), (3) facilities for the immediate care, treatment and eventual disposition of non-salvable NP. cases.

Providing for these needs and in augmenting the services of the NP. sections of station and general hospitals, the specialized NP. unit was found to have a definite place. Such a unit was able to (1) provide more definitive therapy than was practicable in the ordinary general hospital, (2) help standardize the management of all NP. cases in the theatre, (3) provide for the physical separation of psychotics and all other non-salvable NP. cases from the salvable ones, (4) provide adequate clinical material and a teaching staff for a school of neuropsychiatry in the E. T. O.

During the first half of 1943, the plans for filling the needs described above were formulated by the theatre consultant, the commanding officer of the then functioning specialized NP. hospital, and other psychiatrists functioning in the theatre. These plans called for from 12,000 to 15,000 beds for the treatment of NP. cases to be provided by (1) the use of the NP. sections in approximately 150 station and general hospitals of 50 to 100 NP. beds each, (2) the establishment of three specialized NP. hospitals, (3) the establishment of a recovery center, capacity 1,000, under the direct control of line officers for the re-training of the unwilling soldier and others who were found to be unfit for duty but who were actually capable of continued duty following proper training. The specialized NP. hospitals

were to consist of the (1) 36th Station Hospital, 350 beds maximum, then already functioning in the evaluation, treatment and final disposition of the more malignant NP. cases, (2) a 1,000 bed general hospital, expandable to 1,500 beds, with a special tables of organization to function similarly to the 36th Station Hospital, and (3) "Neurosis Center" of 1,000 beds expandable to 1,500 beds, for the intensive therapy of psychoneurotics and other cases considered salvable for further duty in the theatre. It soon became quite evident that the treatment of this type of case was materially hampered by the presence in the same ward or even the same hospital of psychotics, cases of severe mental deficiency, and others that obviously would never be able to return to duty in the theatre.

As there was then no authorized tables of organization and tables of equipment for a specialized NP. hospital, one was prepared and sent to the Office of the Chief Surgeon for approval and then sent to the War Department, where it was eventually approved October 26, 1943, as T/O & E 8-550S. The plans originally called for the activation of such a unit in the Zone of the Interior with adequately trained personnel to be sent to the theatre for duty. This was not possible due to the lack of available psychiatrists, in view of the use of such personnel in other capacities, *i. e.*, as division psychiatrists, as NP. consultants for armies, as chiefs of NP. services in general hospitals, and in other essential positions in the Zone of the Interior.

Broadly speaking, the actual care given the NP. cases followed, essentially, the plans outlined above. During the entire year of 1942 and until January 23, 1943, all the NP. cases in the E. T. O. requiring hospitalization were cared for as provided in usual medical channels, the patients eventually arriving in the NP. sections of the station and general hospitals functioning in the theatre at the time. There, any treatment possible was given, with a return to duty of all those able to perform duty. These sections also served as evaluation and disposition centers for the NP. cases, returning non-effectives to the Zone of the Interior for further treatment, evaluation and final disposition. This task assumed greater proportions just prior to the Allied invasion of

North Africa in November 1942.

In early 1943, one of these sections, the NP. section of the 5th General Hospital, under the supervision of Major Roy L. Swank, was organized to give specialized treatment to the acute cases in the 8th Air Force resulting from actual combat with the enemy. This took the form of rather deep narcosis therapy in which the patients were kept sleeping nearly all the time for 48 hours or more. (In this case, as in the case of other installations and facilities mentioned in the discussion, the details of management, techniques used and statistics of results obtained, will be omitted as they are more adequately described elsewhere.)

With the establishment of the 36th Station Hospital, January 23, 1943, in the site of an old English mental hospital, it was possible to move the violently psychotic cases out of the British hospitals and have them completely cared for by the medical department of the U. S. Army in the E. T. O. From January 23, 1943, to early in March 1943, the NP. sections of the general hospitals continued to function as before, the specialized NP. hospital, the 36th Station, being used to augment those facilities.

In order to establish a more standardized policy for the return of NP. cases to the Zone of the Interior from the E. T. O., it was decided by the Chief Surgeon's Office in March 1943 to have all cases that were no longer considered serviceable in the theatre sent to the specialized unit and there appear before the disposition board prior to their being returned to the Zone of the Interior. This system functioned satisfactorily during March, April, and May 1943, but the increasing troop strength coming into the theatre began to tax the capacity of the specialized NP. unit, not expandable above 350 beds because of the existing facilities of the plant. This resulted in a backlog of cases being held in the general hospitals. In August 1943 this policy was abandoned and properly constituted disposition boards in all the general hospitals were again authorized to return the NP. cases to the Zone of the Interior in accordance with the then existing policy in the theatre.

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needed specialized NP. hospitals in the Zone of the Interior, it became necessary to organize them from existing units in the E. T. O. This was done by using key personnel taken from the 36th Station Hospital, a readjustment of some of the NP. sections of general hospitals and by the utilization of psychiatrically trained personnel found in the theatre not being used in that capacity. These procedures did not provide sufficient trained personnel as it was essential that all the aboved mentioned units be retained sufficiently intact to function adequately. It was necessary, therefore, to train psychiatrically personnel from units coming into the theatre. This was done by replacing those removed from existing units with untrained personnel as well as by intensively training recently arrived personnel for duty in the NP. units being formed.

During the summer of 1942 a hospital plant, among those being constructed in the Malvern area in England, was chosen as the site for the specialized NP. hospital, T/O 8-550S, to be established in the E. T. O. The renovations to the plant, to provide for the closed wards necessary, were begun and in October 1943 the 56th General Hospital moved into this plant and began to function as a NP. unit. At that time all types of NP. cases were admitted there, this hospital serving to relieve the congestion then becoming acute in the already functioning NP. unit, the 36th Station Hospital. On January 9, 1944, the 56th General Hospital was relieved by the 96th General Hospital, at the site mentioned above. The 96th General Hospital was activated as an ordinary 1,000 bed general hospital and had only one trained psychiatrist on arrival. Considerable personnel adjustment was necessary, therefore, to organize the type of unit required. To do this, a few psychiatrists were transferred to the unit from other NP. assignments in the theatre while still other medical officers, trained primarily in medicine and surgery, were transferred from the unit to other duties in the theatre. Even so, it was necessary to train intensively, from the psychiatric point of view, a number of the medical officers, nurses and enlisted personnel arriving in the theatre with the 96th General Hospital. This hospital then began to function under T/O 8-550S, to care pri-

marily for the more serious psychiatric cases, psychotics and other cases less likely to be able to return to duty in the theatre.

Even though the majority of cases sent to the 96th General Hospital were the more serious ones, the hospital immediately accepted the responsibility of providing more than the mere administrative procedure necessary for their return to the Zone of the Interior and purely custodial care while awaiting such return. A definite therapeutic program was established. This consisted of electric shock therapy, deep insulin therapy, psychotherapy, occupational therapy and other types. After proper examination and evaluation, a patient was given the type of treatment considered best for his particular case. By this policy the Army accepted the responsibility of providing immediate treatment for these cases, resulting in a much shorter period of treatment and convalescence after arrival in the United States.

To complete the plans described above, there was left to be established one other hospital, the "Neurosis Center," designed to treat those cases considered most likely, following treatment, to be able to return to duty within the theatre. On November 17, 1943, a detachment of medical officers, nurses and enlisted men, were sent from the 36th Station Hospital to Shuggborough Park, Staffs, England, where with the aid of the 4th Convalescent Hospital, a hospital of this type was established. The first patients were received there December 3, 1943. On December 13, 1943, the 312th Station Hospital replaced the 4th Convalescent Hospital which reverted to functioning with combat troops. Here, as with the 96th General Hospital, personnel adjustment and intensive training was necessary. Colonel Parsons moved up from the 36th Station Hospital to assume command and with the psychiatrically trained personnel available, trained the newly arrived personnel, established policy and worked out techniques for the mission that had been assigned to the unit. The former commanding officer and a number of other medical officers highly trained in medicine and surgery were transferred to other duties in the theatre. As the T/O and T/E of the 312th Station Hospital already established by the War Department was for a Standard 750 bed station hospital, it could

not be easily fitted into the T/O & E 8-550S. It was necessary, therefore, to function administratively as a regular 750 bed station hospital. This gave some difficulty as the professional organization had to be different from those hospitals designed to care for cases mainly medical and surgical. However, with some additional equipment, this unit was able to function satisfactorily with the regularly constituted T/O and T/E of a 750 bed station hospital.

The mission of this unit was to provide definitive therapy for a relatively large number of NP. cases, those which could reasonably be expected, with treatment, to be able to remain in the theatre for duty. The hospital was divided into three large sections: the admission, the treatment and the rehabilitation sections. In the admission section, the patients were given complete physical examinations including laboratory, X-ray, medical, surgical, neurological and other consultations necessary to rule out actual organic disease. Psychiatric and, in indicated cases, psychometric examinations were made concurrently, followed by an evaluation on a basis of all the findings elicited, with a decision as to the type of treatment to be given each particular case. The patient was then transferred into the treatment section. The treatment found to be most effective in these cases, after considerable trial and error, consisted of sedation, sub-shock insulin, individual and group psychotherapy, abreaction or narcosynthesis, hypnosis, electric shock therapy, physiotherapy and occupational therapy. A period of 24 to 48 hours of sedation was usually sufficient, the optimum period for the sub-shock insulin was found to be 14 days. The psychotherapy was begun during the last week of the insulin therapy. This consisted of an explanation, necessarily on a superficial basis, of the psychogenic mechanisms of the symptoms. During this period, cases in which more specialized treatment was indicated, *i.e.*, hypnosis, abreaction or narcosynthesis, electric shock therapy, etc., were selected and the respective type of treatment given. Following treatment, another evaluation was made after which the patients showing sufficient improvement were sent on to the rehabilitation section. Those requiring still further

treatment remained on the treatment section. The rehabilitation section was designed to bridge the gap between a hospital bed and full military duty. In this section a definite 10-day program was established. Here approximately half of the time was devoted to orientation, indoctrination and a review of purely military subjects. The rest of the time was spent in physical reconditioning, preparatory to a return to duty. Then a final evaluation was made and the patient returned to duty with a recommendation as to the type of duty considered best for each case.

Thus the three planned specialized NP. hospitals were established. There continued to be, however, a shifting of available psychiatrically trained personnel within the theatre in order to use to best advantage the specific abilities of all.

The particular type of combat to which the troops of the U. S. Army were subjected during the Normandy campaign, particularly up to the time of the Allied breakthrough at St. Lo, France, produced a relatively high percentage of NP. casualties, predominantly in the form of "combat exhaustion." These were cared for by the facilities described above, using the ordinary chain of medical evacuation. The NP. sections of station and general hospitals treated and returned to duty as many of these cases as possible. Those requiring additional or more specialized treatment were sent on to the above mentioned NP. hospitals.

As the front line advanced through France, the greater part of Belgium and Luxembourg, the need for a specialized NP. hospital on the Continent, designed primarily for the treatment of "combat exhaustion," became apparent. Such a unit was authorized by the Office of the Chief Surgeon, E. T. O. At that time the scarcity of psychiatrically trained personnel in the U. S. made it even more than previously impossible to activate such a unit to be sent over to the theatre. It was necessary, therefore, to once again reorganize the existing specialized hospitals in order to form the new unit and still leave enough trained personnel for the older units to function. This was done by considerable shifting. The 130th General Hospital was selected as the unit

for this reorganization. Practically all the personnel previously functioning as the 312th Station Hospital was transferred to the 130th General and such personnel originally with the 130th General as was needed to make up the difference between the authorized T/O of a 1,000 bed general and a 750 bed station hospital was left in the 130th General. Then the personnel previously functioning as the 36th Station Hospital at Exeter, England, was transferred into and to the site of the 312th Station Hospital in Staffs, England. Enough of the personnel of the original 130th General to make up the difference between the authorized strength of a 250 bed station and a 750 bed station hospital was transferred into the 312th Station Hospital from the original 130th General. This left, of the original 130th General, just enough personnel for a 250 bed station hospital, which was transferred to the 36th Station Hospital, moved into Exeter, England, where it functioned as an ordinary station hospital of that size. There remained then in the United Kingdom two specialized NP. hospitals, the 312th Station and the 96th General. The 130th General Hospital, as reorganized, was sent to the Continent, arriving in France September 4, 1944.

All experience with the treatment of "combat exhaustion" showed that best results were obtained in those cases treated as soon as possible following the onset of the disability. It was decided, therefore, to establish this specialized unit closer to the front line than is usual for general hospitals. In October 1944, with the authorization of the Chief Surgeon, E. T. O., a site was selected at Ciney, Belgium, and prepared by U. S. Army Engineers to meet the standards of a 1,000 bed general hospital. Due to the loss of T/E equipment in transit from England and the lack of transportation facilities on the continent at the time, the 130th General did not start to function until November 9, 1944.

Due to the close proximity of the site to the front line, the changing tactical situation, the German counter-offensive, etc., the 130th General did not function exclusively as a specialized unit. It was necessary to do considerable station hospital work for the 11th Reinforcement Depot at Givet, France, and

to become in effect a large surgical evacuation hospital during the Ardennes campaign. After the Battle of the Bulge, the 130th General did, for the most part, revert to its primary mission: that of a specialized NP. hospital. It functioned as such until after V. E. Day and until June 30, 1945, when it was closed for redeployment.

Following the invasion of southern France by the U. S. Seventh Army and its advance to the southern end of the allied line, the 51st Station Hospital was established as a specialized NP. hospital. This unit had been reorganized as a specialized NP. hospital and had functioned as one in the Mediterranean Theatre prior to its being established in France. Its mission there was to serve in the southern sector, as the Communications Zone NP. Hospital in a similar capacity as the 130th General Hospital did in the northern sector. Similarly to the 130th General and for the same reasons the 51st Station Hospital could not function exclusively as a specialized NP. unit but was able to do so to a greater degree after the Battle of the Bulge.

Simultaneously with the establishment of the NP. facilities described above was the setting up of a school of neuropsychiatry in the E. T. O. This was begun in March 1943 at the 36th Station Hospital. Major Jackson Thomas was the first director of the school. He was assisted by members of the staff of the 36th Station Hospital. At first this served to function as a means for refresher courses for younger psychiatrists in the theatre as well as a training center for medical officers not previously trained in psychiatry but who were obliged to function as such, at least in part, due to the acute shortage of psychiatrically trained personnel. In September 1943 Major Thomas returned to the Zone of the Interior to teach in the School of Neuropsychiatry in the U. S. He was replaced by Major Howard Fabing who continued as its director until its discontinuance in July 1944.

As the troop strength increased a need for psychiatric training of the medical officers in combat units became evident. In January 1944 the school was moved to the 312th Station Hospital. There the main emphasis was placed on the management of neuropsychiatric problems arising in the field, par-

SUMMARY

During the year 1942 the NP. cases in the E. T. O. were cared for by the NP. sections of the station and general hospitals then functioning in the theatre. On August 12, 1942, Colonel Lloyd J. Thompson was appointed senior consultant in neuropsychiatry in the theatre. On January 23, 1943, the first specialized NP. hospital, the 36th Station Hospital, was established in Exeter, Devonshire, England.

As the troop strength increased in the E. T. O. definite neuropsychiatric needs developed. These were found to be (1) facilities for the diagnosis and treatment of salvable NP. cases, (2) facilities for the neuropsychiatric screening of combat units (pre-invasion), (3) facilities for the immediate care, treatment and eventual disposition of non-salvable NP. cases.

The specialized NP. hospital was found to have a definite value as it was able to (1) provide more definitive therapy than was practicable in an ordinary general hospital, (2) help standardize the management of all NP. cases in the theatre, (3) provide for the physical separation of psychotics and all other non-salvable NP. cases from the salvable ones, (4) provide adequate clinical material and a teaching staff for a school of neuropsychiatry in the E. T. O.

In providing for the needs outlined above plans were made calling for 12,000 to 15,000 NP. beds to be set up in the NP. sections of approximately 150 general hospitals and by

the establishment of three specialized NP. units. Of these, the 36th Station and the 96th General Hospitals functioned as diagnostic and therapeutic centers for the more serious psychiatric cases. The 312th Station Hospital was known as the "Neurosis Center," designed to provide definitive therapy for the less serious cases in order that they might remain in the theatre in some useful capacity.

Simultaneously with the establishment of the specialized NP. units, a school of neuropsychiatry was set up. This was originally in the 36th Station Hospital, serving as a means for refresher courses for younger psychiatrists in the theatre as well as a training center for medical officers not previously trained in psychiatry. Later it was moved to the 312th Station Hospital where most emphasis was placed on training for the management of NP. cases in the field under combat conditions.

After the invasion of the Continent of Europe, need for a specialized NP. unit soon developed there. The 130th General Hospital was reorganized for this purpose and was eventually established in Ciney, Belgium. Due to being close to the front line, this unit was not able to function exclusively as a NP. hospital. It did so, however, after the Ardennes campaign, its primary mission being that of a neurosis center.

Finally the management of NP. casualties in the field was discussed.

LOGISTICS OF THE NEUROPSYCHIATRIC PROBLEM OF THE ARMY¹

ELI GINZBERG²

For me to talk on neuropsychiatric problems of the Army needs a word of explanation. I am neither a psychiatrist nor a physician. However, it has been my privilege to be a member of the Operations Service of The Surgeon General's Office for almost two years, and it is this Service which is responsible for hospital planning. Further, General Menninger has told me not only when we agreed, but also when we disagreed, that I was to consider myself an honorary member of his division. For these reasons and because my research activities prior to the war have been in the field of group behavior, I am taking the liberty of talking on a professional problem to professional people.

There are three areas which I would like to review: The background which determined the Army's approach to the neuropsychiatric problem; certain facts and figures which illuminate the scope of the problem; certain morals which flow from this analysis.

It is no exaggeration to say that at the beginning of this war the Army had only a passing interest in the problems of preventive psychiatry and had developed no detailed plans for the treatment of neuropsychiatric casualties. War came upon us and we were not prepared. This statement need not be limited to psychiatry, for it is equally valid for almost every other phase of our military preparations. Kept on a starvation diet between World War I and World War II, the War Department was in a poor position to exploit the lessons of World War I, no less to keep abreast of current developments.

Effective army planning in psychiatry dates from the latter half of 1943. Neuropsychiatry was established as an independent Consultants Division in the Office of The Surgeon General at about that time. The "division psychiatrists" had been "sold" to

the Ground Forces only shortly before. Even as late as the spring of 1944, I recall that in our general hospitals psychiatric patients were considered solely as disposition problems. Those that required hospitalization were transferred to the Veterans Administration.

Equally unsatisfactory was the general disregard by staff officers of professional psychiatric advice. Problems of morale, induction and separation, rotation were handled by officers of the line who were so oblivious to the psychiatric aspects of their problems that they failed to seek, no less follow, professional advice. In short, little progress had been made as late as 1943. There were almost no effective plans, for prevention, for treatment, for assessment of the neuropsychiatric problem. One important reason for these shortcomings, but by no means the only one, was the gross inadequacy of means to cope with the problem.

The gap between psychiatric means and requirements has, in my opinion, never been fully appreciated and warrants emphasis. During the spring of 1945, army hospitals reached their peak patient load of about 550,000. Approximately 10 percent, or 55,000 patients were on the neuropsychiatric service. Patients suffering from functional disorders were frequently classified "surgical" or "medical," but they were seen in consultation by psychiatrists. Hence the 55,000, neuropsychiatric patients understate the patient load assessed and treated by the psychiatric staff.

There were available on V-E Day a total of 2402 Medical Corps officers with a military occupational classification "neuropsychiatrist," to treat and dispose of this patient load. This disregards for the moment the many who were not available to treat patients because their work was concerned with processing personnel, courts martial and training. The foregoing wording is cautious and deliberately so, because it is important to realize that about half of the total group were mostly young doctors who volunteered for

¹ Based on a statement presented at the Convalescent Hospital Conference, Percy Jones Convalescent Hospital, Battle Creek, Michigan, 21 August 1945.

² Resources Analysis Division, Office of The Surgeon General, War Department. (On leave, Columbia University.)

or were assigned to an intensive 90-day course after which they were reclassified as psychiatrists.

The 1200 doctors who were classified as psychiatrists at the time when they were commissioned, warrant further analysis. For the most part, these psychiatrists had been employed in state institutions where they were concerned primarily with the care of psychotic patients. The Army always has some psychotic patients—about 10 percent of the total psychiatric load—but the center of gravity in the military is the patient suffering from neurotic and other personality difficulties. Hence, most psychiatrists commissioned directly from civilian life had much to learn, at least had much to adjust to, when they went into uniform. The scale of the Army's training program for psychiatrists which resulted in doubling the available supply—at least statistically—was an achievement without parallel in medical training during World War II.

If all of the 2400 psychiatrists were treating patients on V-E Day, a doctor-patient ratio of approximately 1 to 23 would have existed.

For contrast, the following figures will prove helpful. At the time when there were 55,000 psychiatric patients in army hospitals, there were approximately 250,000 surgical patients. To handle this surgical load, the Army had available about 10,000 surgical specialists, most of whom had been specialists in civilian life. In addition, there were assigned large numbers of "general duty" officers, many of whom had completed surgical internships. The ratio of surgeons to surgical patients was probably 1 to 10.

On the medical side there were on V-E Day about 240,000 medical patients. Available to treat these patients were 6000 specialists in internal medicine, cardiology, gastroenterology, and allied specialties and a sufficiently large number of "general duty" medical officers to establish a ratio of approximately 1 to 15, perhaps 1 to 12.

The foregoing ratios understate psychiatry's handicap because psychiatric patients usually require more doctor's time than medical or surgical patients. Moreover, a smaller percentage of neuropsychiatrists were engaged in patient treatment than surgeons and

internists; large numbers were occupied in other essential work.

During the first six months of 1945 when patients evacuated from overseas reached a war-time peak, there were actually more psychiatric and neurological patients than medical patients returned from the Pacific. The significance of this statement is highlighted when one realizes that the Pacific evacuated a larger percentage of patients for disease than any other theater. During this same period the number of patients evacuated for neuropsychiatric disorders from the European Theater almost equalled the number evacuated for disease.

The most startling figures are those now first becoming available with the publication of the medical histories of the field armies. The experiences of the First Army—which accounted for most of the American fighting strength during the first two months after D-Day in France—have just been published. During these two months, eight divisions can be considered to have been actively engaged. The records of these divisions reveal that there was one neuropsychiatric admission out of every two medical admissions. In certain divisions, the admissions for neuropsychiatric causes swamped all other medical admissions. This can be illustrated by pointing to one division which had a per annum rate of 944 neuropsychiatric admissions out of 1100 total medical admissions. In non-statistical terms, this means that the entire strength of the division would have been dissipated within a year as a result of psychiatric casualties if men had not been treated and returned to duty.

In these eight divisions, neuropsychiatric admissions amounted to 200 out of a total of 482 medical admissions per annum or approximately 40 percent. If these psychiatric casualties had not been effectively treated, one-fifth of the entire divisional strength would have been lost during the course of a year.

What about surgery? In these eight fighting divisions there were 5.4 battle casualties for one neuropsychiatric casualty. It must be emphasized that many men who were slightly wounded were classified as battle casualties.

Shifting from rates to absolute figures, the First Army reported during June and July,

11,000 neuropsychiatric admissions, 16,000 admissions for disease, and 60,000 battle casualties, half of whom were classified as serious.

If D-Day had come earlier, at a time when the Army had no detailed plans for the prevention, treatment and assessment of psychiatric patients, the First Army would probably have lost most of these 11,000 admissions. Actually only 4000 were lost. This means that approximately 65 percent of the men admitted for neuropsychiatric disorders were treated and returned to duty within the army area. The remaining 35 percent were evacuated to the rear. They were lost for combat but only 10 percent were lost for service in the theater. In contrast, medicine was able to salvage about 60 percent of its admissions while surgery succeeded in returning within the army area only 5000 of the 60,000 wounded, or 9 percent.

In light of this experience, it should prove profitable to review the War Department planning for the distribution of medical means. Based upon current tables of organizations, a field army composed of three corps with supporting troops is assigned approximately 1500 Medical Corps Officers. Of this number, the tables provide for 62 specialists in medicine. Experience indicates that approximately three "general duty" officers were assigned to medical work for each specialist or a total of 250 doctors in an army area. In the First Army this group had to care for 16,000 disease admissions. The surgical staff amounted to 370 surgical specialists and about 600 "general duty" officers. The surgical work load totaled 60,000 patients. The remaining medical officers in the army area were assigned to planning, evacuation, and other operational work.

These same tables of organization provided for 26 neuropsychiatrists. In the First Army, their work load amounted to 11,000 admissions. Theater surgeons recognizing on the basis of past experience the gross discrepancy between means and requirements, rose to the challenge as best they could by training battalion surgeons and by scraping together psychiatrists who could be spared from duties in the Communication Zone and bringing them forward to the army area where the challenge was greatest.

By improvisation, by hard work, by careful control over the evacuation system, the 26 army psychiatrists, assisted by whatever the theater surgeon was able to spare, succeeded in returning to duty 40 percent of all admissions directly from the clearing stations and other forward units. Another 25 percent were returned to duty from evacuation and convalescent hospitals in the army area. As has been pointed out before, 35 percent of the original admissions had to be evacuated to the Communications Zone, but only about 10 percent were evacuated to the United States. This means that only one man in ten was lost to the theater.

These are crude data and doubtless many questions arise. Did the men who were returned to duty stick it out, or did they break down a second or third time? This same question could be asked about medical and surgical patients returned to duty. For instance, the Mediterranean Theater salvaged many patients suffering from trench foot in the hope that they might fight during the dry summer months even though they could not endure a second winter campaign. It is well known that many surgical patients broke down after they had been returned to duty. The uncertainties of the data are therefore general and are not limited to the neuropsychiatric figures alone.

The foregoing figures highlight not only the high salvage rate of neuropsychiatric patients in overseas theaters but emphasize the fact that the United States received the residual group. An occasional patient doubtless slipped through the chain and was evacuated to the United States even though his disability was sufficiently minor to warrant his retention in the theater. Most patients however, who came home should have come home because they were no longer of value to the theater.

Although in the latter stages of the war the evacuation of neuropsychiatric patients from overseas was carefully controlled, the total numbers returned were sufficiently large, especially when added to those admitted in this country, to place a serious strain on available facilities and personnel.

This pressure was not so serious during the early part of the war when the number of neuropsychiatric patients evacuated from

overseas was relatively small and the general hospitals in this country were more concerned with assessment and disposition than with treatment. But during the later stages, when the inflow became much larger and the emphasis in this country had shifted to treatment, shortages of psychiatric personnel and facilities loomed large.

Stimulated by the need for additional general hospital beds to care for the seriously wounded and recognizing the desirability of treating neuropsychiatric patients in barracks rather than in wards, the convalescent hospital was conceived. This hospital had two specific advantages for treating neuropsychiatric patients. It afforded the opportunity of developing a well-rounded program in which specific psychiatric therapy was supplemented by physical, educational and vocational aids. The convalescent hospital also facilitated the use of adjunct personnel such as psychiatric social workers and psychologists so that limited psychiatric personnel could be most effectively utilized. Convalescent hospitals did not really get underway until early 1945. During this short period of six months they have treated approximately 30,000 psychiatric patients.

We have sketched some of the background and have presented some of the figures bear-

ing on army psychiatry in World War II. I believe that three morals can be drawn from this presentation. Although most army patients have been returned to civilian life and are now back at work, we must not be blind to the fact that the country is confronted with a serious problem in the neuropsychiatric casualty. Many veterans need help now. Many will need help later on. The Army knows most about these men. It is therefore the obligation of the Army to present in as complete a form as possible an assessment of the problem.

There is ample evidence to suggest that errors in national planning created a host of psychiatric casualties. To force the military to bear all the burdens of war and to permit civilians to escape without substantial sacrifice was a fundamental error. Good morale was impossible. If ever we are forced to mobilize again, every effort should be made to mobilize all of us.

We must profit by our experience in this war and realize the major contributions that preventive and therapeutic psychiatry can make to the solution of military problems. The place of psychiatry in military medicine must be made secure so that it can discharge its very great responsibilities in war and peace.

PROBLEMS CONFRONTING PSYCHIATRY IN THE ARMY CONVALESCENT HOSPITAL¹

BRIGADIER GENERAL WILLIAM C. MENNINGER

Following the vivid picture painted by Dr. Ginzberg's presentation, my assignment is far easier. Ever since Dr. Ginzberg has been in The Surgeon General's Office, he has greatly aided the Neuropsychiatry Consultants Division in its effort to develop the facilities necessary to function.

We in psychiatry are deeply grateful to The Surgeon General's Office, and particularly to Generals Kirk and Bliss, for the boost that placed the practice of psychiatry in position that it might function. No other specialty of medicine started this war with the handicap of being name-callers and disposers-of and we in psychiatry held that unenviable position two years ago. From that position, we have progressed to the status in which we are permitted to do what every doctor wants to do—to treat. It represents a complete reversal of army policy and practice which has occurred in the last two years and placed us in the position that we now occupy, best exemplified in the convalescent hospital. And so we are grateful for a chance to demonstrate the fact that psychiatric patients can get well if they are treated.

In discussing psychiatric treatment, it may be worthwhile in this general medical group to at least summarize what we in psychiatry mean by treatment. Some of our best textbooks end up the description of a disease by saying that "the treatment is psychotherapy." The implication is obvious; this instruction may be helpful to someone but there is reasonable doubt. What do we try to do for these patients that is specific? Perhaps I should apologize in presenting this elementary subject, but the fact remains that most of us went through medical school and were impressed with psychiatry by a side-show that was held at the state hospital one Thursday afternoon through the senior year. That was our conception of psychiatry and it did not help us in the Army or in civilian life!

¹ Presented at Convalescent Hospital Conference, Percy Jones Convalescent Hospital, Battle Creek, Michigan, 21 August 1945.

What and how do we try to accomplish psychiatric treatment? Our first important step that we would like to make is to manipulate the environment to help the man function a little more smoothly, with more comfort to himself and greater benefit to the environment. We try to do that in convalescent hospitals but the odds are still somewhat against us. In civilian practice we do not send patients with the same types of illness (psychoneuroses) to a hospital, but in the Army, the convalescent hospital is far superior to trying to treat the neurotic patient in the general hospital.

The second aim we would like to try to accomplish is to make clear to everyone working with us that in psychiatric treatment the personality of those on our staff is the chief medicine that the patients receive. Very specifically, these include the nurses, the corpsmen, the social worker, the psychologist and the psychiatrist himself. The interplay of their personalities with the man who is ill is the most potent medicine we have, if we through training and experience know how to use our knowledge to be of help to that man.

The third pillar in psychiatric therapy is this business that I have referred to as psychotherapy. Because of time I must slight this by abbreviation: the aim is to help a man understand himself and the basis as to why he functions, feels and thinks as he does. For example, the conversion system always seems mysterious. None of us has any difficulty understanding blushing, namely that it is an emotion that is expressed physiologically. On the other hand, even the average doctor who sees the man on a hospital ward with a stomach upset that is very definitely related to an emotional difficulty, is usually at a total loss in understanding the symptom or applying scientific treatment. Our aim must be to try to help the patient himself obtain what we call insight—some understanding as to what is going on that makes him ill.

Our fourth pillar is the attempt to provide

a series of outlets and contacts whereby the man can lose the interest in his symptom and invest it in some constructive activity. The program of activities which we have set up in convalescent hospitals with the marvelous facilities and equipment, are most important in the psychiatric treatment program. They represent in the elaborate outlay and program of education the psychiatrist's dream, far surpassing any similar organization in civilian life.

Last but not least, an extremely important function, particularly in the Army, is to give the soldier an opportunity to make some identifications, to reestablish his relationships with other people. We start out making our identification as a child in the home and we set up certain intimate personal relationships with our parents—we belong to that family. We continue them in school; our married home, our job. In most of our psychiatric patients, a chief difficulty lies in the fact that they do not identify with any group—they don't belong to anything. Consequently one of our aims is to attempt to provide this sense of belonging and being cared for. Good morale in any type of unit is in part because you belong to that unit. When all feel secure and confident in it, it becomes the "best damn outfit in the Army."

We have more success in helping line officers understand personality problems than we do some of our doctors. This fact may be because we so often did not receive helpful psychiatry in our medical school training. We did specialize on the anatomy and the physiology and the pathology of the body, but comparatively few of us learned anything about the anatomy and the physiology and the pathology of the personality. Consequently when we in psychiatry try to present some ABCs to some medical officer about our work and our needs, as we have done again and again through the war, we often bump into an impossible line of resistance. So many of them think they have all the answers before they know the questions. I think a great many doctors regard themselves as specialists in psychiatry, though they do not in dermatology, or in any other specialized field, and as a matter of fact, fields that are not quite as complicated as the human personality. Consequently one of our first big

obstacles has been to get permission to function. We are all aware, particularly those of us in psychiatry that we have had some psychiatrists that could not "sell a bill of goods"; that did not seem to talk the same language that other people talked. That was another liability, as Dr. Ginzberg said, and with which I agree one hundred percent.

Another one of our major obstacles has been the shortage of personnel coupled with a lack of understanding of our needs. In the civilian practice of psychiatry, we learned years ago that we functioned best if we had a team—a team composed of three persons who each had to carry his load if we were going to do the total job—the psychiatrist, the clinical psychologist and the psychiatric social worker. Many of our psychiatrists unfortunately had never worked in such a team and that required our education of them. But much more important was the fact that other doctors did not appreciate that these people were extremely important if we were going to do the right kind of job in psychiatry. We have a considerable number of trained psychiatric social workers, people who not only have their Bachelor's degree, but have had at least 2 years university training afterwards and then their internship. I feel strongly that long ago they should have had a commission, because they were of a high professional caliber and are absolutely essential in trying to tackle this enormous problem of the personality difficulties in the Army. The tragedy is that many were never effectively placed despite our efforts to do so. The clinical psychologists were commissioned and they are of very valuable help to us, but their acceptance, sometimes even by commanding officers of hospitals has been with crossed fingers. Often they were misused, sometimes even when finally assigned to the neuropsychiatric service. Effecting the proper and adequate use of this ancillary personnel has been a major obstacle in accomplishing the job.

We have a little difficulty regarding the length of time a patient should remain under treatment. We do not need to be reminded that three years ago a psychiatrist that could get a patient out of the hospital in 29 days, 4 hours and 30 minutes, compared with some other medical officer who kept his patient 30 days and 6 hours got a special star in his

crown for having gotten rid of the patient quicker. Such practice may have questionable administrative value but it is poor medicine. Fortunately we are now under a policy where we can do this treatment job and must recognize that personalities do not get well according to time yardsticks; some will clear up in two days and some will not clear up in six months. There is no general rule, and no one can establish a yardstick and say that every patient must be out of the hospital in six weeks, that is, if we want to do the right kind of a job.

A very moot problem concerns the discharge policy for psychiatric cases. We in army psychiatry are anxious, sincerely anxious, to do the best kind of psychiatry we can. In every convalescent hospital there is a basis to state that we are going to have from 15 to 25 percent of the patients on the NP section that we do not regard as "sick." Because a soldier wants to capitalize on a minor ailment and cry to high heaven long enough, we still do not believe he should be rewarded for his noneffectiveness by the award of a certificate of disability. Then too, we sincerely want to try to protect the men themselves. We must face realistically the mental hygiene aspect of the problem when the man is discharged from the hospital as an "invalid" and then is subsequently paid to stay sick. There is far too much secondary gain in such a system for him to get well. Consequently we are sure that in so far as we can get these men on their feet and discharge them by any other method than letting them regard themselves as invalids, we do the man and the total situation of the Nation a good turn—I think it is more than a good turn, I think it is a responsibility.

May I briefly mention the future from my point of view. I have already indicated that we psychiatrists are pleased with the opportunity to have a chance to treat patients. I think the convalescent hospital treatment program for the NP patient is one of the most important psychiatric achievements in the Army. We hope that those who plan the post-war organization will take into account the progress that we have made and the job that we have at least started to do. We must make some provision to carry on the principles of the convalescent hospital program

regardless of the size of the Army. The old personality problems are going to be in evidence, whether there are ten thousand soldiers or ten million, and we have learned that this is the best way to treat this particular type of patient.

We must plan also for the future, and at the start of our planning, for the active participation of this team, the psychiatrist, clinical psychologist and psychiatric social worker. If we want the job done well, it is just as essential to have these ancillary personnel as it is for the surgeon to have the X-ray technician and the laboratory technician.

We wish we might expand further our convalescent hospital program to work out a system whereby the soldier to be discharged could be given a trial again at civilian life before we actually discharged him. Such a plan is not out of the realm of possibility. We know it is good medicine, and is regularly and consistently carried out in the civilian practice of psychiatry. If a man got into difficulty, he could return to the doctor who has been taking care of him. It would be a very practical plan to try to work out some type of a furlough towards the end of the man's stay in the convalescent hospital to determine what type of problems he meets when he gets home. How does he get along?

Last but not least, I wish that we might all raise our sights as to the effects of the psyche on the soma. A surgeon earlier on this program mentioned the difficulty with the soldiers who did not want to try and they constituted the chief problem in orthopedic cases. The difficulty there, of course, is not in the leg or the appliance; it is in the personality. Until all of us in all branches of medicine have a clearer recognition of what the personality and emotions can do to the soma, we can not do the best medicine. And in the Army I am proud to state, we in psychiatry have had a closer, happier relationship with all other specialties of medicine than in any situation in civilian life. There is not a general medical officer in the Army who has not had more exposure to psychiatric problems in his Army career than he did in all the rest of his medical career put together. We only hope that he and his future patients will profit from it.

ARMY CONSULTATION SERVICES (MENTAL HYGIENE CLINICS)

LT. COL. M. S. GUTTMACHER, M. C., A. U. S.

Chapter IV of the volume on the history of neuropsychiatry during World War I(1) states that the cantonment neuropsychiatrist became the "guardian of the mental health" of his military organization. When one reads the entire chapter, it is apparent that this was in nearly every instance an ideal rather than a reality, since there was no formal organization of psychiatric facilities that brought psychiatrists into really close contact with enlisted or with officer personnel in the training camps. It is, however, clear that by the end of the first World War it was realized that the training camps were fruitful fields for the early treatment of maladjusted trainees and that many of them could be prevented from becoming ineffectuals. But, prevention of psychiatric disorders by effective general indoctrination of the officers and the trainees was not conceived.

When World War II made its first impact on psychiatry, the major emphasis was placed on psychiatric screening. Enthusiasts felt that if effective methods for rejecting the psychiatrically unfit were devised there would be no real psychiatric problem in either the training camps or the combat theaters. Sager counsellors realized the impracticality of such a plan, particularly in this war, which required such a huge fighting force and which, because of its new combat methods and weapons, placed the individual under a stress never before equalled in man's history.

In April 1942, four months after the war began, Colonel (then Lt. Col.) William C. Porter, MC, while serving as chief of the neuropsychiatric service of the Walter Reed Hospital sent an important memorandum regarding the assignment of neuropsychiatrists at replacement training centers to Brig. Gen'l C. C. Hillman, MC, chief of professional services, Surgeon General's Office. This memorandum outlined a plan which, according to Colonel Porter, "would be in line with the suggestions of a large number of prominent psychiatrists who feel that there is need of practical psychiatric help away

from the station hospital and near the line."

The plan's objectives were: (1) to adjust the soldier to "his minor difficulties of maladaptation"; (2) to "select out obvious mental defectives, psychopaths or prepsychotics who have passed induction board or other entrance screen, provided the unit commander has referred the man as a problem in training, discipline or administration"; and (3) to "sell practical psychiatry to the line." Colonel Porter suggested that to effectuate his plan a specially picked group of 10 psychiatrists between 30 and 40 be given a six weeks training course in "administrative duties, relationship to the line, military orientation and indoctrination in practical psychiatry."

In July 1942, Colonel (then Lt. Col.) P. S. Madegan, MC, recommended, as chief of the branch of neuropsychiatry in the Surgeon General's Office, that psychiatrists be assigned to headquarters at each replacement training center. Two months later the Adjutant General increased by 15 the allotment of majors in the Medical Corps to the headquarters of the army ground forces replacement training centers.

At the end of October 1942, an Adjutant General's letter(2) was sent by the War Department to the commanding generals of the 13 army ground forces basic training centers, who, after having been informed of the availability of neuropsychiatrists, had requisitioned them. The letter assigned psychiatrists to the training center headquarters to establish a psychiatric or behavior clinic, independent of the camp hospital. It stated that it had been reported that certain training centers had somewhat similar facilities already in operation and cautioned against reduplication of effort.

This letter showed real prescience in outlining the functions of the center neuropsychiatrist. It stated that his chief mission was, "to assist those normal individuals who may have correctible maladjustments to the army service and to eliminate those mentally unstable individuals who are or may become a

distinct liability to military training, discipline and morale during the early weeks of training." In order to accomplish this he was "to institute an advisory service, assisted by qualified psychological and such other personnel as may be made available." In this early directive no specific reference was made to social workers. As the consultation service idea developed these were primarily the other necessary personnel that were made available. The purpose of this advisory service was "to aid the newly inducted soldier to make a satisfactory adjustment to his military duties." Further, the psychiatrist was: "(1) to aid by professional methods, individuals who have been brought to his attention, in order to make full use of their training and capabilities or to recommend reclassification of those who are being trained in a skill beyond their capacities; (2) to study and recommend remedial measures for those individuals who manifest behavior problems; (3) to recommend for immediate discharge from the service such men who, because of mental or emotional factors, cannot function adequately or who present a hazard to other men; (4) to develop a liaison with line and medical officers for the purpose of instructing and developing a better understanding of the principles of mental hygiene as applied to the military service; (5) to aid in the morale program of the station by use of the neuropsychiatrist's specialized training and knowledge."

This letter foresaw that the center neuropsychiatrist would have his cases referred by most of the diverse agencies within the camp. It listed: (1) staff sections; (2) school directors; (3) chaplains; (4) company, troop or battery officers; and (5) provosts marshal. However, two chief sources were not mentioned, the courts martial agencies and the post medical agencies.

In February 1942, Major (then Lt.) Harry L. Freedman, MC, established a mental hygiene clinic, known as the Classification Clinic, at the Signal Corps Replacement Training Center at Fort Monmouth, N. J. It operated through the office of the Adjutant of the training center(3). Independently, and nearly contemporaneously, similar units were established by Major (then Captain) Bernard Cruvant, MC, at the Engineer Training Center at Ft. Belvoir, Virginia(4), and

by Lt. Col. (then Capt.) Julius Schreiber, MC, at the Anti-Aircraft Replacement Training Center at Camp Callan, California. Major Cruvant was the first to use the name, "consultation service," to designate his mental hygiene unit. This term has since come into general use in the Army. Because of the efficiency with which the Belvoir clinic was conducted and its propinquity to Washington, it was frequently used by the Office of The Surgeon General for the training of psychiatrists who were assigned to direct consultation services. Lt. Col. Schreiber early placed great emphasis on the relation of motivation to the morale and the efficiency of the soldier(5). He made skillful use of the columns of the camp newspaper and of other vehicles to present his ideas. The consultation service of Camp Callan was originally organized as an outpatient clinic of the station hospital.

In an effort to prevent the occurrence of neuropsychiatric disorders, Lt. Col. (then Major) H. Robert Cohen, MC, who directed the neuropsychiatric clinic of the station hospital at Aberdeen, began lecturing on personal adjustment to the incoming trainees of the ordnance training center in August, 1942. A year later he published an article which demonstrated that this was a very important means of aiding in the adjustment of the new inductee to the Army(6). In the summer of 1943 he became psychiatrist of the newly organized consultation service of the Ordnance Training center.

In the fall of 1942, 13 new consultation services were established in ground forces replacement training centers. The psychiatrists who were assigned to direct them were specially selected, largely on the basis of their civilian experience in the field of mental hygiene and public psychiatry. Many of these medical officers remained at the same posts throughout the war. It was generally found that the efficiency of the psychiatrist increased with his length of service and his greater familiarity with the specialized training methods and problems of his camp. Experience has shown too, that it required time for the officers of the training centers to understand, and to acquire confidence in, the methods of the psychiatrist.

In March 1943, Colonel R. D. Halloran, MC, the then chief of the neuropsychiatric

branch of the Surgeon General's Office, recommended to General Hillman that mental hygiene units (consultation services) be established in all replacement training centers. There were at that time 33 such basic training centers—16 of which already had consultation services. Col. Halloran's communication stated that it was generally acknowledged experience in the Army that these units had proved their great value in assisting command in the adjustment of the men entering the service fresh from civilian life. He also affirmed the desirability of giving priority in the assignment of the best available army psychiatrists to these vitally important posts. By the end of the summer of 1943 all of the army ground forces and army service forces basic training camps had consultation services.

In the fall of that year the first meeting of consultation service psychiatrists was held. Seven of the outstanding men were brought to Washington for a three day meeting, which was presided over by Major (then Lt.) John W. Appel, MC. The chief conclusion reached was that the mental health of soldiers through their period of army service was greatly dependent upon their motivation; and it was recommended that a closer liaison be established between the training center psychiatrists and the morale building agencies, particularly the I & E officer (then known as the special services officer).

A meeting of all of the psychiatrists directing consultation services in ground forces replacement training centers was held at North Camp Hood, Texas, in March, 1944. Most of the time of the meeting was devoted to a presentation and discussion of the adviser system. This was a system of prophylactic psychiatry on a mass scale initiated by Major Samuel Kraines, MC, at the TDRTC at Camp Hood in February, 1943. The adviser system provided for the handling of maladjustment cases by selected and specially instructed non-commissioned officers in each company, working under the guidance of the training center psychiatrist(7, 8). The group formally disapproved of this practice because in their opinions the noncommissioned officers were not adequately trained nor experienced to carry it out effectively

and furthermore the adviser system cut across command channels.

A new program for training in basic medical subjects was issued by the War Department in Circular 48, published February, 1944(9). It contained a skeleton outline for a course of three lectures on personal adjustment for enlisted men to be given during their first two weeks in the Army by a medical officer, preferably a psychiatrist. The object of the course was "to give all enlisted men an understanding of personal adjustment problems in the Army and a healthy viewpoint in the handling of emotions and feelings by the soldier." TB MED 21, giving a detailed outline for these lectures was published on 15 March 1944(10). War Dept. Circ. 48 also outlined a six hour lecture course for officers on personnel adjustment problems. The object of this course was "to train company officers and noncommissioned officers in the importance of mental health in the Army, personality structure of the normal man, the causes of nervous breakdowns, recognition of signs and symptoms of poor mental health and measures to maintain mental health in the command." A complete outline for this course was published in TB MED 12 on 22 February 1944(11).

The outline of the lectures for officers proved to be very satisfactory. The lectures for the large groups of new inductees were very much more difficult to present. Their effectiveness varied markedly with the skill of the lecturer and the social and educational level of the particular group of trainees. Most of the psychiatrists employed training aids extensively in their presentations. Motion pictures, charts, pamphlets and marionettes all proved useful. Unfortunately, the American Army never completed a film on the adjustment to our Army of the new inductee, comparable to the excellent British film, "The New Lot." A revision of TB MED 21, was published 29 December 1945 (10).

At the request of the Office of Secretary of War, the neuropsychiatry division of the Surgeon General's Office wrote, in April, 1944, to the psychiatrists in the consultation services of 14 Army ground forces and 7 Army service forces basic training camps, seeking constructive suggestions about the psychiatric problems of their organizations,

especially their connection with army training. Their responses can be summarized under the following headings:

1. *Leadership*.—Frequent reference was made by the consultation service psychiatrists to the commissioned officer in his relationship to morale and to the successful training of the soldier. There was wide recognition of the similarity of the individual's emotional relationship to his company and his family, the soldier's response depending in large measure on the father substitute: the unit commander. Many stated that the noncommissioned officers were really the most important men in the training program, the "men behind the gun" of army training and that they should be chosen by examination rather than solely by appointment, in which personal favoritism too often played the deciding role. Increased personnel and continuity of service were stressed in the training cadre.

2. *Psychiatric Understanding Required by Officers and Cadre*.—The consensus of opinion indicated that there was an increasing recognition, on the part of line officers, of the emotional difficulties inherent in the new trainee situation and in the training objectives, however there was a long way to go in recognizing the individuality of each man. There were still many officers who could not give up the prejudiced belief that the neuropsychiatric problem was necessarily a "goldbrick."

3. *Instructors*.—The unevenness of the quality of instruction in the Army was stressed. Poor instruction was felt in many instances to be due to the officer's complete lack of interest and experience in teaching.

4. *Comments on Training Methods*.—Better planning of the training courses was suggested. One officer said, "the men should progress evenly from the less technical to the more technical phases, and from the less emotionally upsetting experiences to those of greater menace. For example demolition comes in the 3rd week. Men should not progress from the M-1 rifle through the carbine to the .22." There was much criticism of the fact that men from 18 to 38 years of age and men with army general classification test scores ranging from 50 to 150, were thrown into the same program at the same rate of speed. It was generally felt that there

was almost exclusive emphasis on fear as an incentive to make the men learn, causing undue anxiety. Realism rather than the all too general "you are all dead ducks" formula was suggested. Yelling and bullying were employed to an unnecessary extent. Only rarely did the plans and training division of the center seek the advice of the center psychiatrist.

5. *Infiltration Course and Rifle Training*.—The great majority reported excellent educational plans with relation to the infiltration and battle courses. Some felt that too much emphasis was placed on competition in rifle training.

6. *Relation of Training to the Development of Psychoneurosis*.—The chief factors in the training program producing psychoneurotic responses were listed as: (1) the differences in the mental and physical capacities of the trainees, all of whom are subjected to the same program and the same physical conditioning and learning pace; (2) inadequate recognition that this was the trainee's first experience in the Army and its attendant adjustments; (3) failure to recognize the difficulty in identification with a temporary unit; (4) inadequate flexibility in special opportunities for training and the disposition of limited assignment and useless men; and (5) a lack of perception of the difficulty of learning "to kill or be killed." It was recognized that these five factors in many instances served as a screening device that rid the Army early of many of those markedly predisposed psychoneurotically. However, it was feared that they tended seriously to unstabilize men that would otherwise have been salvable. A system similar to the Navy's, where during their first six weeks, the unfit can be simply and expeditiously discharged as "unsuited for military service," was favored.

7. *Labor Battalions*.—Eighteen of these 21 psychiatrists strongly recommended some sort of units for slow learners and for the psychiatrically-limited-assignment soldiers, both to better adjust the individual and, even of greater importance, to increase the efficiency of the training of the normal group.

8. *Orientation Problems*.—It was generally agreed that there was defective orientation of the soldier: first, to his acceptance of the Army; second, to his job assignment:

and third as to why we were fighting. One psychiatrist made a special point of the unfavorable morale factors in the guardhouse. "To me," he wrote, "the greatest violence that is done to basic psychiatric principles, is in the handling of men in the average guardhouse. These are men with poor morale, otherwise they would not be there. Instead of attempting to raise their morale, everything is done to crush their spirit. Every guardhouse should have a competent morale officer and a full program of rehabilitation."

9. *The Dispensary.*—Several mentioned the great importance of the dispensary and the fact that when the dispensary officer had an inadequate understanding of psychological difficulties, he was ineffectual and even harmful to his unit.

In September, 1944, Lt. Col. (then Major) M. S. Guttmacher, MC, was assigned to the staff of neuropsychiatry consultants division of the Surgeon General's office. Lt. Col. Guttmacher had directed consultation services in anti-aircraft replacement training centers for nearly two years. His chief duty in the Surgeon General's Office was the supervision of the 35 consultation services in the army service forces and army ground forces replacement training centers. During the year that he was on this assignment, Lt. Col. Guttmacher personally inspected all of the consultation services.

In January, 1945, a three day conference of all of the consultation service psychiatrists was held at Aberdeen Proving Grounds. Thirty-eight were in attendance. The conference was directed by Brig. Gen. (then Colonel) William C. Menninger, MC. The meetings were conducted informally, most of the time being devoted to a free discussion of common consultation service problems. Sick call, motivation and orientation, the negro trainee, redeployment, neuropsychiatric disqualification standards for combat, court martial testimony and the use of psychological testing agents were among the topics discussed. An important contribution was made to the conference by Brig. Gen. Arthur Trudeau, the then deputy director of training ASF, in his discussion of the "Role of the Consultation Service in Training." Gen. Trudeau had always been a warm supporter and a wise critic of the work of the

psychiatrists in the army service forces training centers. The chief general conclusions reached at the conference were (13):

Motivation plays a vital role in determining mental health. Insufficient realization by the average soldier of the degree to which he and his family were threatened by the enemy has been a basic cause for the high incidence of psychiatric disorders among military personnel. Attempts to develop healthy attitudes toward the war have been relatively ineffective. It is the responsibility of the psychiatrist to point out the medical importance of this problem and lend full support to the I & E division and the command in its solution.

Whereas the treatment and disposition of individuals suffering from psychiatric disorders must be continued, it is evident that the chief military value of a training center psychiatrist can be in the prevention of psychiatric disorders. The factors which determine mental health of military personnel such as motivation, leadership, training, job classification and assignment are functions of command. In these matters the psychiatrist can function only as an adviser to the command. In order to carry out this mission, it would be necessary for him to act as a staff officer. At the present time, limitation of assisting personnel barely permits the psychiatrist time to handle his heavy case load of treatment and disposition. Assumption of duties in regard to prevention must be gradual and depend upon the feasibility of adding further trained personnel to the consultation staff.

Consultation service psychiatrists have, from the outset, found two groups of non-medical professional workers indispensable to the efficient functioning of their clinics, the clinical psychologists and the psychiatric social workers.

Only toward the end of the war were commissioned clinical psychologists numerous enough to have them assigned to every clinic. Much of the routine psychometric work was carried out by enlisted personnel (MOS 289). The commissioned clinical psychologists, when available, assisted the psychiatrists in many ways and were primarily responsible for the job assignment of clinic patients and the supervision of the psychological testing program. Job reassignment after careful analysis of the individual's experience, aptitude and preference is one of the most successful therapeutic techniques available to the consultation services. In it, as in the other phases of Army work, the interests and needs of the Army are always paramount. In consequence, it was necessary for the clinical psychologist (early in the war generally designated personnel con-

sultant) to be currently informed of the Army's local personnel needs. In March 1945 a meeting of the 25 commissioned clinical psychologists working in consultation services was held in Chicago(14).

The social work in the Army's consultation services was carried out by enlisted personnel and by qualified Red Cross psychiatric social workers. Unfortunately, the demand for Red Cross psychiatric social workers was so great that Red Cross was able to staff only about one-third of the consultation services. Those clinics that had Red Cross workers made a demarcation between the functions of the enlisted and Red Cross social workers. The latter confined themselves largely to dealing with community agencies and treating specially selected cases, in which the soldier's maladjustment resulted primarily from his abnormal degree of dependence on his home or unfavorable conditions which existed in his home.

The sphere and the importance of the enlisted social worker in the consultation service increased as the functions of the clinics and the work of the military social worker became better defined. In October, 1943, psychiatric social work was first declared an army specialty (MOS 263) and in May 1944, the psychiatric social worker was first listed as a critically needed specialist. This meant that they could be held on their jobs despite the pressures of the Army's manpower needs. Some difficulties arose from the fact that army ground forces were loathe to use MOS 263 for the designation of psychiatric social worker, generally employing MOS 289 (personnel consultant assistant). Only at the close of the war did the army air forces include MOS 263 in their list of specialties. In June 1945 TB MED 154, entitled "Psychiatric Social Work," was published(15). This gave a much clearer definition of the duties and technics of military social work than had previously existed.

Some of the military social workers were highly experienced and fully qualified psychiatric social workers and social case workers. However, relatively few individuals of this type were available. Most of the social work had to be done by capable individuals who, in civilian life, had been in allied fields and who received on the job social work training and supervision in the

Army. Since military social work is less complex than civilian social work, with all of its family and community ramifications, many of these army trained workers achieved great competence. Although continued efforts were made to get commissions for social workers who were fully qualified professionally, this was unfortunately never accomplished. A few of the consultation services used WAC social workers very effectively, even though the great bulk of their cases were male.

The duties of the military social worker in the consultation services were many. In most of the clinics the initial histories were taken by social workers. In those with professionally qualified workers, the preliminary examination and treatment plan for each case was made by the worker. He decided which cases had to be seen personally by the psychiatrist and which special problems fell properly in the domain of the clinical psychologist for examination and for treatment. Many of the simpler maladjustment problems were diagnosed and treated by social workers, acting under the direction of the psychiatrist. The field work performed by social workers proved to be invaluable. In many camps a preexamination company or battery investigation was made in most cases. The worker went into the company area and interviewed the noncommissioned cadre, the company officers and the fellow trainees of the patient, so as to get as complete a picture as possible of his personality make-up, his training progress, social adjustment, his attitudes and behavior abnormalities. In addition to the preliminary field study, the social worker often made follow-up visits into the company areas to make certain that the clinic's recommendations were clearly understood and were being put into effect. This "leg work," as it was called, paid big dividends.

The size of the consultation service staffs varied greatly. Three of them had two psychiatrists. In one of these, which served a camp in which half of the trainees were negro, a negro psychiatrist, Capt. Rutherford Stevens did excellent work. The variation in the number of social workers, psychological workers and clerks was not always proportional to the trainee strength of the center served by the consultation service. It de-

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depended greatly on how well the psychiatrist sold himself to his command and how clamorous he made his demands for the necessary personnel. In one consultation service serving a center with a strength of 7500, the psychiatrist was assisted by one lone part-time clerk and in another serving 28,000 troops there were 20 psychological and social workers and 20 clerks.

There was also a marked discrepancy in the commissioned rank of the psychologists and psychiatrists in the consultation services. In the army ground forces training centers no psychiatrist could be promoted beyond the rank of major and the psychologists remained first lieutenants. However, in several of the army service forces training centers, psychiatrists, with identical duties and responsibilities were lieutenant colonels, and psychologists were majors. Because of the psychiatrists' staff functions, freezing his rank at a majority, in many instances, resulted in lessened influence and effectiveness.

The neuropsychiatry consultants division of the Surgeon General's Office purposely postponed issuing any general directive on the organization and procedures of consultation services. It was felt that techniques must vary tremendously in units serving 5,000 trainees from those serving 50,000 and in units training soldiers for the transportation corps from those training men for the infantry. Moreover, the psychiatrists themselves had had a varied training and experience. And the commands which they served showed marked differences in their degree of understanding and cooperation. It was believed that the philosophy and procedures of the consultation services had sufficiently crystallized by 1945 so that TB MED 156, entitled "Consultation Services," was published in June(16).

As a result of a pooling of the opinions of all of the consultation service directors, it was recommended in TB MED 156 that there should be one psychiatrist and one clinical psychologist for each 12,000 trainees, one Red Cross social worker for every 20,000 trainees, and a social worker and a clerical assistant for each 3,000 trainees. These were considered minimal needs. The efficiency of the consultation services suffered because it was not possible to have such a table of allotment generally established during World War II.

When the first consultation services were established they were conceived of primarily as psychiatric dispensaries, located in the training center rather than in the hospital area, because in this way there would be closer contact with the company officers. As the war progressed and as the consultation service psychiatrists became more experienced, there was a gradual reorientation. Prevention rather than treatment became the chief goal of the work. It was found that the greatest good for the greatest number could be accomplished by instructing the officer and the enlisted cadre in the general principles of mental hygiene and in teaching the trainees themselves how to adjust to leaving home, entering the Army and facing combat.

The services of the training center psychiatrist were found to be of great value in advising command in regard to the problems of absence without leave, realism in training, the furlough policy, camp discipline, etc. Because of this, experience proved conclusively that the consultation service was more efficient when its personnel was assigned directly to the staff of the training center rather than to the office of the post surgeon or the hospital, to be attached to the training center for duty. The psychological bond that comes from being an integral part of an organization, rather than being loaned to service it, is of great importance.

The prevention role of the training center psychiatrist was clearly and authoritatively outlined in WD Circ. 81, 13 March 1945(7), which said:

III. 3. *Utilization and Prevention.*—The majority of the factors which determine the mental health of military personnel are functions of command. In other words, the main job of preventive psychiatry must be done by commanding officers of the line. It is a responsibility of command to obtain maximum utilization of manpower by providing proper incentive and motivation, and such reclassification, reassignment, rest, relaxation, and recreation as exigencies of the military service permit. The psychiatrist acts as adviser to the command. In training centers or in Army divisions as a member of the division surgeon's staff, he is to be regarded as having a staff function in advising the command on policies and procedures which affect mental health and morale. In certain divisions and in some commands there appear to be excellent morale and splendid accomplishment which are in part due to an ideal relationship between the psychiatrist, the surgeon, and the responsible officers of the commander. It is the responsibility of the psychiatrist to be alert to the situational

factors which are precipitating psychiatric disorders and to recommend the measures necessary to alleviate or remove these factors. He should survey the training program from a psychiatric viewpoint, advise concerning schedules, the method of conditioning troops to battle situations, and adjustment to extremes in climate. He should pay close attention to such matters as the furlough policy and the handling of AWOL cases. Through collaboration with the personnel classification officer he should be able to prevent many psychiatric disorders by bringing a medical viewpoint to bear in the job assignment problems. He should be alert to evidence that troops are approaching the limit of their endurance and in need of rest. Equally, he should be alert to untoward effect of boredom from excessive idleness. He should advise other agencies which are important to the morale and mental health of the troops: the information and education officer, the chaplain, the Red Cross, and the special services officer.

The staff of the consultation service should be large enough to permit it to do all of the outpatient psychiatry for the trainees and the cadre and at the same time to carry out a full preventive and advisory program. Dichotomy of the clinics' two main functions results in inefficiency. The staff of a consultation service can best keep its hand on the pulse of the training camp that it serves by thoroughly studying all of the men who have become definitely maladjusted during their training. In this way the general and special local factors leading to the development of psychoneurotic symptoms or to delinquent behavior are ascertained and brought to the attention of command, so that they can be eradicated and thus prevent the occurrence of additional cases. In several of the larger camps the clinical case loads became so great that the staffs were unable to study and treat all of the patients and carry out an effective preventive program, with its numerous required lectures and meetings. In consequence a large proportion of the cases, generally those in which psychosomatic symptoms were the most prominent, had to be sent to the psychiatric outpatient department of the camp hospital.

Because of the limitation in the size of the consultation service staffs, several auxiliary devices were instituted to enable the clinics to enlarge their spheres of work. Various modifications of the adviser system, which had specially selected and instructed non-commissioned officers treating minor maladjustments, were tried. Lt. Col. (then Major)

Arnold Eisendorfer, MC, the director of the consultation services of the medical and engineers training centers at Ft. Lewis, Washington, established several accessory consultation services, each under the direction of an experienced company officer. These liaison consultation services, which had social workers but no medical officers on their staffs, studied all but the serious emergency cases prior to their being sent to the main clinic. Many of the simpler problems could be handled at this level. Group psychotherapy was used at several of the consultation services. This was specially well organized at Camp Wheeler under Major E. V. Semrad, MC, and 1st Lt. Don McNasor, MAC. With its use they achieved excellent results.

Since the consultation services were largely dependent upon the judgment of company line officers for the referral of their clinical cases, there were always the fear and the realization that certain numbers of maladjusted trainees were passing through the training centers undetected. In consequence, various screening adjuncts were employed to spot those men, among the large groups of incoming trainees, who were most likely to become maladjusted during their basic army training. It was not the plan to study psychiatrically these men who made significant scores on their screening tests, but to notify company commanders of potential problem trainees, so that they would be observed more carefully during their training cycle. The consultation services adhered throughout the war to the basic philosophy that their primary mission was to assist the company officers and to work for and through them, rather than as independent psychiatric agencies.

With this end in view, studies of incoming trainees were made with the Cornell Selectee Index, the Minnesota Multiphasic Inventory, the NSA, and tests individually devised. The findings were then correlated with the subsequent adjustments of the individuals during their training. Although the results in several instances gave promise, these projects, due to the limited personnel and the great demand of routine work, were not carried to a definitive conclusion. Major Jesse Arnold, MC, the psychiatrist of the FARTC at Ft. Still, administered to 50,000

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trainees a questionnaire screening test which he developed and which he found of real practical value. This questionnaire had as its basis a history of psychosomatic symptomatology. Major Arnold also devised a questionnaire to assist him in the examination of potential officer candidates for the officer candidate school board. However, several less experienced and overzealous psychiatrists devised questionnaire tests that were of little value and, in some cases, actually misleading.

In response to an inquiry sent out from the neuropsychiatry consultants division of the Surgeon General's Office, it was ascertained that an average of 10% of the men taking basic training, between 1 January and 1 July 1945, in the AGF and ASF training camps in this country were referred to consultation services because of maladjustments of one type or another. Of this maladjusted group, 6½% were hospitalized, many of them receiving CDD's, and 10% were recommended for administrative discharges under AR 615-368 and AR 615-369. The remaining 83½% of the men referred to the consultation services were kept on a duty status. There was a great deal of variation in these statistics among the training camps. This resulted from the differences in the size of the consultation service staffs, differences in the professional judgment of clinic staff members and differences in the opinions and attitudes of local commands toward psychiatric problems and the consultation service.

Consultation services, like nearly all camp agencies, were sensitive to the attitudes of the command. For example, certain commanding generals believed that the Army should rid itself quickly of its ineffectuals and favored a liberal interpretation of AR 615-Sect. VIII. Others took the opposite view, believing that it was unjust and socially unwise to let the inapt out of the Army. In the first instance the clinics would recommend that many men be brought before the Sect. VIII board, while under the latter type of leader it was recognized that such recommendations were not only unpolitic but useless. But there were of course limits beyond which the psychiatrist could and would not go. He could not be expected to adjust his medical judgments to the rapidly shifting

manpower needs and the frequent and often contradictory directives. For the most part, he gave the command his best medical advice for it to act upon.

In all centers the new trainees were routinely interviewed during the first 48 hours of the training cycle by specially trained enlisted men of the interviewing section of the Classification and Assignment Office. The primary purpose of this procedure was to select men who were qualified because of experience, aptitude or interest for special assignments or attendance at the various post schools. However, these interviewers were also instructed to discover during this initial interview, those new trainees who presented outspoken psychiatric symptoms. In this way enuretics, the extremely effeminate, those with significant psychosomatic complaints, and not rarely patients of psychiatric hospitals, were spotted early. However, only in the most outspoken instances were these individuals immediately referred to the consultation service for examination. The usual action taken was to inform the company commander and the center psychiatrist of the identity of these individuals and of their presenting problems. The cadre, in some cases with the specific advice of the consultation service staff, attempted to adjust these trainees to their new environment without psychiatric examination. Most of the consultation service psychiatrists preferred to have the men examined only after they had been in camp for three or four weeks. It was generally believed that those trainees who could "make it under their own power" became more confident and hardier soldiers than those who had special help. Moreover, it was felt important to prevent line officers from believing that we were molycoddling the trainees or encouraging them to consider themselves sick, when no significant malady was present.

One of the striking clinical syndromes that developed early in the new trainee's career in the Army was pathological homesickness, —aptly named, "the separation neurosis." This was essentially a reactive depression in which there was, generally, marked anxiety. It developed, of course, chiefly in the over-dependent group. It was especially prevalent in young boys of Italian parentage. Despite

the large size of the Italian families the bond to the mother seemed often to be abnormally strong. It has been suggested that this may have been dependent on the late weaning that is characteristic of this racial group. It was not rare to find a separation neurosis in which dependence on the wife was the presenting etiological factor. There was generally, in such individuals, evidence of early maternal rejection, so that the wife really played a dual rôle. Most of the separation neuroses yielded to the passage of time and the employment of rather simple treatment techniques. It was frequently found that the soldier had projected his own abnormal degree of dependence—so that he saw the problem reversed, as his family's inability to get along without him. Aided by the report of a Red Cross investigation, it was possible to get most patients to face the situation realistically and to accept their separation. However, there were some in whom the structure of the ego was so defective that adjustment was impossible and it was far more economical for the Army to discharge them. As one commanding general put it, "It's not a practical thing, from the Army's point of view, to train a soldier who has to have one noncom specially assigned to wet nurse him through his training period and then have him turn out to be a weak reed."

Eneuresis was a far more frequent phenomenon than most army psychiatrists had anticipated. Although in many cases it was associated with mental deficiency or infantile and neurotic character structure, there were some apparently stable individuals in whom it appeared to be an isolated phenomenon. At any rate, it was not possible to explore the personality sufficiently to uncover associated defects. From a practical point of view, except for their specific deficiency, this particular group of eneuretics could make capable soldiers. As a result, there was a great inconsistency in the policy of discharging eneuretics, dependent on extraclinical factors, such as manpower needs, the attitude of the local command, etc. No promising treatment techniques for curing eneuresis were discovered. Every common sense device such as waking the individual at set intervals, isolation from the rest of the

group, reconditioning through a shock dependent upon the completion of the electric circuit by the urine, was tried. And each had its proponent. A small number of malingerers feigned eneuresis. However, frequent and regular bed checks by the cadre readily uncovered them.

The problem of homosexuality, although not very frequent, was a very difficult one in training centers. A pathetic group of homosexuals vehemently denied their abnormality to induction examiners, hoping blindly that living a robust life among thousands of normal men would in some magical way confer normality upon them. Many of these individuals came voluntarily to the consultation service desperately appealing for help. Of course, there were individuals with strong latent tendencies who had similar difficulties, which manifested themselves in psychosomatic disorders and anxiety states. The local command often dictated the policy to be followed in handling homosexuals. Under such conditions the consultation service psychiatrist was often left with only one important and difficult function, that of seeing that justice be tempered with a mercy that was born of understanding.

By far the greatest number of patients referred to the consultation services were the psychoneurotics—the anxiety states and conversion hysterias predominating. The trainee's anxiety was generally projected specifically toward some phase of the training—particularly firing the rifle, the battle course and the conditioning hikes. Patient reassurance from the training cadre, giving the individual insight into the nature and cause of his anxiety, pointing out that the specific focal point was merely a symbol of his attitude toward army duty as a whole, and adjusting him generally to army service, usually bore results. Many trainees expressed fear that they would never be able to kill another human being. In many instances this was basically the fear that they themselves would be killed.

The greatest source of referrals to the consultation services was the dispensary surgeon. To him came the host of men with psychosomatic symptoms and complaints, for which no organic basis could be found. Every type of maladjustment to army train-

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ing might manifest itself as an hysterical conversion—gastro-intestinal and cardiac syndromes predominating. While manifestations of anxiety among negro trainees were relatively rare, and some of the signs of tension such as nail biting almost unknown, there was a greater tendency for the classical hysterias to occur among them. The overwhelming preponderance of negroes among those who presented the clinical syndrome of campitocornia was amazing.

Every known method of treatment was employed with these psychoneurotics, including reassignment, disqualification for combat, granting of special furloughs, medical study and reassurance, individual and group psychotherapy, hypnosis and, in rare instances, hospitalization.

To be sure, maladjustment to the training situation did not manifest itself only through neurotic symptomatology. It was also expressed in delinquent behavior patterns. The most prominent of these was absence without leave. In every training center the consultation service was engaged at the request of the staff judge advocate or troop commanders in studying these individuals and in advising the command on this important disciplinary problem. Clinical study showed the majority of the men who went AWOL from the training centers were psychiatrically abnormal. About one third of them were psychopaths. It was evident that most of the AWOLers had been seriously maladjusted to the restrictions imposed upon them by civilian society, since more than 50% had had court convictions before coming into the Army. From their childhood, with its marked school truancy, through adulthood, they had constantly repeated the same pattern of irresponsibility. These AWOLers offered little promise therapeutically. However, some of the neurotic group were adjusted to the Army through decreasing their anxiety and many of those who were psychiatrically normal were helped by improving their motivation.

Frank malingering was a disorder that was rarely observed in the training centers. An exaggeration of existent symptoms, in which there was a shifting of dominance of participation by the conscious and the unconscious, was often found, however.

Many of the older army officers, who occupied important staff positions in the training centers, expressed great scepticism early in the war in regard to the usefulness of the consultation services. They felt that such a highly organized consideration of the individual soldier was basically wrong, that it was a form of mollycoddling that sapped the virility of our inductees. Others decried public official recognition of an individual soldier's potential maladjustment, to which the mere existence of the clinic attested. They further feared that lecturing to incoming soldiers on personal adjustment would "put ideas into their heads" which would lead to epidemics of malingering. Experience showed that these worries were needless. The great majority of training officers came to put great dependence upon the staffs of the consultation services. They straightened out the bulk of their problem cases and expedited the removal of those that were hopeless. Most officers realized that without these services it would have been impossible for 80% of the maladjusted individuals to complete their training. No one can even estimate how many instances of military inefficiency and how many instances of serious psychiatric crippling were prevented, by disqualifying from combat during their training, those who were mentally and emotionally unfit for combat service. Furthermore, there is strong reason to believe that the consultation services by their preventive program, with its indoctrination of the officers and trainees in the general principles of personal adjustment, and in their role as psychiatric advisers to the command, prevented many instances of maladjustment from ever developing.

To be sure, there were die hards who remained unconvinced. One commanding officer informed the writer that he would not exclude a man from any phase of his training because of the medical diagnosis of headache unless that diagnosis could be proved by x-ray. Such men were unlikely to become proponents of the consultation service.

The understanding that some of the training center commanders had for the work of the consultation service psychiatrist can be best presented by quoting the remarks of Major General Ralph McT. Pennell, Com-

manding General, FARTC, Ft. Sill, at a conference held by commanding general, army ground forces, on 20 December 1944. On that occasion he said,

It would be very presumptuous for us to tell you training center commanders how to organize or operate the consultation branch of your S-I section or the duties you assign to the neuropsychiatrist in that section. Particularly is this true since my organization is based largely on what I learned from observing the operations of these sections in other training centers which I visited. I shall confine myself to covering in a few words some of the good work accomplished by an exceptionally well qualified psychiatric officer.

First, he is never referred to by his formal designation. Doubtless, many men do not even know that he is a medical officer. He assumes the role of adviser and helper toward both the patients who may come under his observation and the battery commanders whose problem children they are. He has been able to train the classification personnel who interview incoming trainees so that they are able to spot men who may possibly have personal problems needing the attention of the battery commander and the psychiatric officer; that is, he discovers those who may give trouble *before* trouble arises. Battery commanders are given their names in confidence so they may be carefully observed from the beginning. A check-up over a period of months shows that probably 95% of those who are later before the psychiatric officer were spotted at this first interview by the classification section.

Second, he has gained the complete confidence of the battery and battalion commanders and they seek his advice and help in handling difficult cases. He has also interested the first sergeants who are usually good judges of men. Incidentally, he learns what noncommissioned officers do not know how to handle men and they are weeded out if proper instruction cannot change them. By comparisons between batteries of the number of men who have been cured of their fancied ills, he has secured a competitive spirit between the battery commanders. In other words, he has built up in these battery commanders a very strong interest in salvaging misfit personnel and building up in them a healthy spirit and frame of mind so that, instead of being sorry for themselves and wishing they were out of the Army, they complete their training with a new pride and self-confidence and with a desire to get out and take their part in winning the war.

Third, he works very closely with the summary court officer and the judge advocate to determine the most appropriate action to be taken in cases where offenses have been committed. I also use him to advise me as to the appropriateness of sentences adjudged by courts. This may take the form of a conference between the JA, psychiatric officer, and myself.

In short, this psychiatric officer has a healthy view toward his duties. He has established very friendly relations with all battery commanders.

They believe in and trust his decisions and work together to solve the personal adjustment problems which arise. He has done this with a minimum of overhead or red tape.

Despite the great amount of work, scientific standards equal to those of the country's best civilian mental hygiene clinics were maintained in many of the consultation services. A number of papers of real merit were written by consultation service staff members. For security reasons some of these could be only privately circulated among army personnel during the war. Many, however, were presented at psychiatric meetings and published in scientific magazines. Those published are represented by references 18 to 40 in the bibliography.

Those of us who have had the opportunity of observing the consultation services in action throughout the Army are convinced that they should become an integral part of every army training center in the future. They are unique units, created, tried and proven by World War II.

There was a time when war was a simple business requiring little training and indoctrination and almost no specialization. But that time is long past. It was assuredly not true of World War II and it will be even less so of the scientific warfare of the future. Armies are no longer made up of masses of men, but of individuals welded together into special functional units. The individualized approach to the soldier's adjustment has come to stay. For the present, and at least for some time in the future, a well integrated organization composed of psychologists, social workers and specially trained medical officers will be essential to the full efficiency of the Army.

It is greatly to be hoped that the more important lessons that we have learned during this war in regard to the organization and functions of army mental hygiene clinics will not be forgot nor neglected. Experience has taught that:

1. All professionally qualified personnel cannot do efficient jobs in key positions in army consultation services. For this work, outgoing, practical men, who are interested in teaching and lecturing, and who get along well with nonprofessional colleagues should be selected. Enthusiasm and an ability to put ideas into simple terms are necessary assets.

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2. In addition to acting as a staff officer, the psychiatrist of the consultation service should carry out or direct the clinical examination of all of the cadre and the trainees of the center needing psychiatric attention.

3. Consultation services, because of their many duties, must be adequately staffed, not only by professional personnel, but by clerical personnel, as well. The personnel needs outlined in TB MED 156 are minimal. They are—one psychiatrist and one psychologist to 12,000 trainees, one Red Cross worker to 20,000, and one social worker and one clerk to 3,000 trainees. Uniform tables of allotment should be provided.

4. The consultation service personnel should be assigned to the headquarters of the training center. There is great value in having them assigned as integral members of the center staff rather than as attached personnel.

5. The commissioning of professionally qualified social workers would increase their effectiveness in consultation service work.

6. Red Cross psychiatric social workers should be on the staff of every consultation service.

7. The role of incentive and motivation cannot be too greatly emphasized in the adjustment of the new trainee to the Army.

8. An effective program of education in personal adjustment to army life is a valuable method of preventing psychiatric disorders among trainees. Training aids, particularly in the form of specially made motion pictures, are vital to such a program.

9. The professional judgment of training center psychiatrists should be made more use of, in the selection of officer candidates.

10. Continued research should be carried on to devise tests that will aid in discovering the new trainees who are (a) most likely to become maladjustment problems in the Army, (b) unsuited for combat duty because of mental and emotional unfitness, (c) the best officer material because of intellectual ability, qualities of leadership and emotional stability.

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THE MORALE OF TROOPS ON OCCUPATION DUTY¹

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It is apparent that since the termination of World War II a decided change has occurred in the morale of the troops. The increasing "gripes" of service men and the flood of letters to the Congress testify to that fact. The morale decline has been abundantly obvious in troops on occupation duty in foreign lands. This is a consideration of the greatest importance. It can produce emotional reactions in the men which will continue to exert their damaging effects after those men have returned to civilian life; it can undermine the efficiency of the military organization; it can prejudice the success with which the occupation assignment is carried out; and it can cause an anti-military reaction which might jeopardize proper considerations of national security.

However unfortunate this situation may be, it does provide a suitable opportunity for psychiatric observations on the dynamics of morale. The morale situation among occupation troops can best be understood if viewed as a progressive development whose origins are apparent in the period preceding the end of the war. The psychological reactions produced by the surrender of the enemy are highlighted by the contrast in morale prior to and since then.

The author served with a U. S. Marine Corps division overseas during the period of preparation for what was to be the invasion of Japan. He remained with the same division for several months following its arrival in and occupation of a portion of the Japanese home islands. He has also been in a position to observe morale to some extent in other American military organizations in Japan, and in all cases the situation has been found to be much the same.

THE MEANING OF "MORALE"

Much has been written on morale, but there is still disagreement as to the meaning

¹ The opinions or assertions contained in this article are the personal ones of the author, and are not to be construed as necessarily reflecting the views of the Navy Department or the naval service at large.

of that term. One of the main difficulties in dealing with morale has been that too often those who are responsible for it have shown no clear idea of what it is or of the means of evaluating it. In any effort to meet this situation the first necessity is a suitable definition of the subject. Morale is here taken to mean the net satisfaction derived from acceptable progress toward goals or from the attaining of goals.

This definition indicates that morale is an affective state of pleasant type. Since goals are sought after or attained only to the extent that there is motivation or drive to do so, the definition emphasizes the importance of motivation to morale. It is believed that good morale does not produce strong motivation, but that powerful motivation does strengthen morale. Thus, for example, troop morale was very high at the end of the recent war, but that fact did not motivate the men toward performance of occupation duty. Conversely, it is apparent that if men want some attainable goal very strongly, they will work for its attainment with corresponding spirit, zeal and pleasure.

Under ordinary circumstances the individual is concurrently motivated toward many goals which vary greatly in desirability, and the potency of his motivation toward those goals varies considerably from time to time. His morale is raised in proportion to the progress he makes toward those goals, and it is lowered in proportion to his failure to make such progress. His overall morale condition may be considered as a net balance of satisfaction in relation to goal seeking.

The strength of morale varies directly in proportion to the intensity with which the goal is desired, and therefore in proportion to the strength of motivation toward the goal. Such strong motivation will result in strong satisfaction to the individual ("good" or "high" morale) if he believes he is making reasonable progress toward the goal. Thus the morale of the R. A. F. continued high during the battle of Britain be-

cause the men of the air corps were intensely desirous of defeating the German threat from the air, and because they maintained a belief that they could do the job and that they were making good progress in the doing of it.

Conversely, strong motivation will give strong dissatisfaction ("poor" or "low" morale) if the individual believes he is not making reasonable progress toward the goal. It is for this reason that prisoners of war have low morale, or are dissatisfied, but that their morale rises sharply when they see a chance to effect an escape. Most men on occupation duty are intensely desirous of going home as soon as possible. Their morale is low as long as they believe they are prevented from making reasonable progress toward returning home, but it changes to a state of strong satisfaction when such progress is hastened or facilitated.

Absolute progress toward the goal is not as important as "reasonable" or "acceptable" progress. In any drive situation the individual normally forms his estimate of what the rate of progress toward the goal should be. If he believes that the actual rate of progress is unnecessarily slowed—as by the inefficiency of the command or by strikes at home or by what he interprets as indifference to his problems—his morale will be low. Thus, although most of the occupation troops know that they will return home within a matter of months, their morale is poor because they believe their return home is unnecessarily impeded. On the other hand, even though the rate of progress toward the goal is slow, morale will be sustained if the individual believes that the rate of such progress is all that can reasonably be expected. For example, morale of the British Eighth Army in Africa remained high because the troops believed that in spite of hardships and setbacks they were making the best possible progress toward the victory they assumed would eventually be theirs.

The mere fact that a goal is difficult to attain does not seem to depress morale unless the difficulty is considered by the individual to be unreasonable or unnecessary. Indeed, progress toward a difficult goal, even though slow and laborious, commonly gives the individual a feeling of satisfaction in

achievement. This satisfaction is the same thing as good morale and seems to be due to the fact that the individual by his own efforts has partially fulfilled his drive of self-assertion or ascendancy. The goal of superiority and the motive of ascendancy would appear to account for the zest with which men enter into competitive endeavors.

Good morale results not only from progress toward goals, but also from their actual attainment. The more strongly a man is motivated, the more satisfaction he obtains from the fulfillment of his drives. It should be noted, however, that the satisfaction which comes when goals are won is likely to be short-lived, as new goals quickly arise and in turn become the determinant of morale.

MORALE AND MOTIVATION DURING THE WAR

During the war the average soldier was strongly motivated to perform his duties well. With the passage of time it became increasingly apparent to the average American that he and his country had a vital stake in the conflict. There were those who did not appreciate the issues at the time they were obliged to don a uniform, but in most such cases frequent contact with more enlightened soldiers, as well as military experience, gave such men a clearer idea of what the enemy stood for and what defeat at his hands would mean. Motivation to perform efficiently in military service varied somewhat according to the degree of social consciousness involved. The average American soldier had been educated from childhood to have pride in the history of his country and in its wars and its military leaders. Such traditional concepts gave rise to some feelings of patriotism as the term is generally construed. However, patriotism in the sense of devotion to national weal was much less obvious as a motivating factor than more limited group loyalties. The men commonly fought for their own social group, whether that group was on Broadway or on Bougainville. Strong group identifications were formed in the barracks and the foxholes as men faced the annoyances and trials of military life together. It was in part because of military group loyalties that the more socially cohe-

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sive organizations tended to perform best in combat.

Basically, and regardless of any broader loyalties, the overwhelming majority of the men performed their military duties mainly in order that they could return to their pre-war social milieu as quickly as possible and reestablish the interrupted continuity of civilian life. The strength of the home ties was clearly seen in the importance which the average man overseas attached to receipt of mail from home and in the amount of time he spent talking of home. The men fought the enemy because he had to be defeated before they could return home to stay, and because they saw that he endangered their own personal patterns of life in their own home towns. Moreover, in all their activities in relation to the enemy they were urged on by the awful seriousness of the situation; failure to do the job well might result in death at the hands of the enemy.

In general, morale of American troops was maintained at high levels during the war. In keeping with the definition of morale given above, this was due to several considerations: (1) The men continued to be dominated by a very strong desire to bring the war to a successful conclusion. (2) Although admittedly difficult to achieve, victory was always considered attainable. (3) From the time of the battle of Midway Island we made uninterrupted progress toward victory. (4) The rate of that progress, as a whole and in individual campaigns, was generally considered by the troops as reasonable or acceptable under the circumstances. (5) Repeated local victories fulfilled some of the intermediary goals of our troops. (6) Various secondary drives relating to diet, mail service, and other comforts and conveniences of life were usually resolved to the extent that it was practicable to do so.

It should be noted that during the war the average soldier could take action to resolve his drives directed toward winning the war. By training or by fighting or by doing his share to maintain lines of communication and supply he could contribute his part toward the objectives of winning the war and getting home. This ability on his part to contribute toward the resolution

of his most potent drives greatly reduced any tendency to frustration.

The average soldier thought and talked, frequently and at length, of what he would do when the war was over and he would return home. He may have enlisted for "the duration plus six months," but he gave that extra six month period little consideration, nor did he worry much about when the duration of the emergency would be declared at an end. In most instances he gave little thought to the obvious facts that someone would have to do occupation duty, and that demobilization would take time. He had emotional appreciation of the fact that he had entered military service to help fight the war. His attention was concentrated on that fact rather than on any post-war military service because for him fighting the war was a longer, more difficult, and more dangerous task. Moreover, whenever possible he was encouraged by his superiors in rank to focus his attention on defeating the enemy. No incentives were intentionally introduced to motivate him toward any other goals and thus to dilute his efforts. He thought of "when the war is over" as the time when all the annoyances and strains of military life would come to an end and he would go home to his previous way of life. Thus the date of the surrender became a symbol implying results which in fact could not be promptly attained.

MORALE AND MOTIVATION AFTER THE WAR

When the day of surrender arrived, the first reaction was one of obvious relief, manifested by considerable exuberance; and at first morale was very high. There was a marked increase in conversation about going home. However, it was very soon apparent to the men that occupation duty lay ahead of them. The realization of this fact caused no immediate sharp decline in morale. There seemed to be several reasons for this. In the first place, the men were not fully convinced that the Japanese were sincere in their surrender plea. Those military organizations which entered Japan in the earlier days of the occupation did not know what sort of reception they would receive. They landed bearing arms and prepared for trouble. The element of danger to self and

to one's group had not yet vanished, and this tended to keep the men oriented toward the job to be done; they knew that if, in spite of surrender, there was still fighting to be done, then their military obligations had not yet been fulfilled. The motive to defeat the enemy continued strong until the surrender was not only a signed statement but also an accomplished fact.

In the second place, no indication was given as to the probable duration of occupation duty for the men, who tended to assume that it would be very brief and that they would promptly be relieved by replacements from the United States or by troops more recently arrived overseas.

In the third place, an opportunity to see the enemy's country offered a real appeal. This point is well illustrated by the fact that some men who had enough points for discharge requested to go with their organizations to Japan; but after they had been there a short time and had satisfied their inclinations as tourists, they did everything possible to get home without further delay.

Although at first the troops were willing or anxious to make the trip to Japan, it can hardly be said that they showed true motivation toward occupation duty; and as soon as the drab character of occupation duty manifested itself, this became apparent, showing itself in depressed morale. From then on the men showed increasing dissatisfaction and lack of drive toward the job to be done.

With the termination of hostilities the incentives which had appealed to and stimulated the main drives to continue at duty during the war now ceased to apply in force. Youth adopts its concepts of patriotism and national duty from its elders. In school and in the home those elders had glorified America's military record but had made no issue of the post-war periods. American education tended to be more isolationist than international, and the implication was fostered that after a war Americans customarily went home and ceased to worry about the defeated enemy. The patriotic appeal ended with a victory parade up Fifth Avenue. As a result, feelings of patriotism and national duty failed to provide sufficient motivation toward occupation duty. Moreover, since the immediate threat which the enemy represented

to the individual and his social group and his way of life had been liquidated, incentive to carry on was correspondingly reduced. The men assumed that in any case the Japanese would not be able to fight again for some years. The danger was considered to be remote in time and therefore mainly the responsibility of the military replacements who would eventually take over the occupation job.

Quite evidently the average soldier did not have adequate understanding or emotional grasp of the nature of occupation duty and of its importance. He was never well instructed or "briefed" on the subject, and he was not fully encouraged toward a better grasp of the issues involved. After he had been in Japan a few weeks, from his point of view occupation duty commonly consisted of many hours spent guarding objects which no one ever showed signs of wanting to molest, or of patrolling areas where no disorder was evidenced. Many of the men were not kept fully occupied during working hours and therefore felt their presence was not necessary in the enemy's land. After the enemy's weapons had been collected and secured by our troops, most of the men tended to feel that the manner in which they performed subsequent assignments (mainly guard and patrol duty) would in no way speed the day of their return home. Thus the incentive to perform duty was reduced.

Not only was motivation toward occupation duty very weak, but also motivation toward going home was stronger than during the war. This was true for several reasons. In the first place, it was apparent that many civilians in the United States had even less grasp of the problems of occupation than did the average soldier overseas. In their letters to the troops they too frequently wrote as if they expected their men home without delay, and they discussed that happy day when G. I. Joe would again be a civilian. Thus they dangled before the eyes of the troops the incentives which stimulated desire to return home; and they described those incentives in terms of the immediate future, which further increased their potency. Moreover, when the men did not return to the United States promptly, letters from home were filled with complaints of injustice and

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inefficiency on the part of the authorities. These whining communications increased the distress and lowered the morale of the men overseas, who found in them additional justification for their own prejudiced attitudes.

In the second place, with the war's end the home newspapers and radio turned to thoughts of peace, and subjects relating to performance of military duty received progressively less space. The average news consumer showed increasing interest in the end of wartime restrictions and return to conditions of life associated with times of peace. Stories of men at war gave way to accounts of the manufacture of nylon stockings or of the unrestricted sale of gasoline. Also, the progress of demobilization received top billing. These shifts in news emphasis were apparent to the men overseas, who received local home newspapers or heard radio broadcasts or were relayed the news by those who wrote to them. The result was that their thoughts, and secondarily their drives, were further diverted in the direction of home and civilian life.

In the third place, with the passage of time more and more high-point men left Japan for the United States. While those who stayed behind were comforted to know that the demobilization process was functioning, at the same time it was inevitable that they should feel strong envy and wonder how soon they would be making the same trip. Moreover, as the high-point men were evacuated, new social alignments were necessary, and the previous sustaining effect of long-established social loyalties was thus attenuated. While the old groups had been formed under conditions of war, the new ones were created under the conditions of occupation duty, and group military pride was thereby diminished.

Other motives than those directed toward military duty or toward return to civilian life, although relatively less potent, also influenced the behavior of the men. Problems of food, living conditions, mail, recreation, etc., required consideration. Of course, it took time to establish such services properly in the enemy's land; but when the time element was allowed for, the results still not infrequently seemed short of

adequate. In part this was because many of the non-commissioned officers who operated these services were among the first to go home on points, leaving the services inadequately staffed with less experienced men. It also seemed due to a general indifference associated with declining morale, which undermined desire to do the job well on the part of both officers and men and which, in turn, caused a further decline in morale as progress toward the satisfaction of these drives became blocked.

In terms of our definition of morale, the principal reasons for the dissatisfaction of the men on occupation duty may be summarized as follows: (1) There ceased to be strong motivation toward the performance of military duty. (2) The overwhelming drive of the men was to go home without delay. (3) Progress toward the goal of being at home was considered by the men to be unnecessarily slow. (4) Various secondary drives were often not resolved to a degree considered reasonable by the men.

PSYCHOPATHOLOGICAL EFFECTS

The motivation conditions described above gave rise to certain psychopathological trends which were manifested in varying degree according to the personality of the individual and his particular environment.

In most instances the basic nature of the emotional disturbance did not seem to be one of conflict in the usual sense of that term. There was little evidence of strong but antagonistic drives, such as were commonly seen during war. Rather, the situation was routinely one of a strong drive (*i.e.*—to go home without delay) which was effectively blocked by military rules and regulations. The counterbalancing drive toward performance of duty, which sustained the men in wartime, had dwindled to insignificance. The drive to go home was not blocked by fear of the consequence of any unauthorized attempt to get home but rather by the patent impracticability of any such attempt. Very few men showed psychoneurotic symptoms of anxiety character, obtaining transfer in that manner; for while the desire to go home was at full strength, the environment was not of a type to cause great fear or apprehension.

The primary emotional pattern was therefore one of simple frustration, rather than of conflict. Hostility and resentment and depression, the principal emotional accompaniments of frustration, were abundantly in evidence. Consideration of our definition of morale would lead one to suspect that low morale would present the picture of frustration. In the typical conflict situation morale is commonly sustained by the fact that no matter in which direction the individual moves in relation to satisfying his conflicting motives, he thereby proceeds toward the satisfaction of one of them. However, in the case of low morale or of frustration the individual does not achieve a satisfying degree of progress in the fulfillment of those drives which are predominant.

Hostility and resentment were by far the most common reactions, and they were seen in greater strength than depression responses. Their most apparent manifestation was increased "gripping." The troops expounded on their grievances with a vehemence which revealed their hostile mood. They showed increased emotional irritability, particularly when their complaints were discussed without being ameliorated. Some of them damned military service in sweeping terms and told how much they would like to "expose the whole thing." Many of them wrote home letters of bitter complaint.

"Gripping" served the purpose of emotional catharsis and also made it possible for any interested parties to determine the main sources of dissatisfaction. However, the great majority of the complaints were common to a considerable portion of the group, and by vocalizing them the men found common justification and common cause in their feelings. There were instances in which the men showed a strong tendency to organize in their resentments, as a result of which, in more than one instance, open defiance of authority occurred and was dispelled only by prompt action of the command.

As the complaining became stronger and more frequent in military establishments all over the world it also became better organized, and military officials gave it more heed. The men then realized that by complaining they stood a chance to expedite progress toward their main goal of being at home,

and this acted as an additional incentive to voice their dissatisfactions.

By far the greater part of the complaints were in relation to not going home sooner, but secondarily the men complained about not being supplied more of the comforts of life. These latter complaints seemed to be as much a reflection of the current mood as a true indication of the conditions of life in the occupation area.

The men showed no clear idea of where the source of their troubles lay. In general, all they saw was that they were not getting what they considered to be their rights, and that "someone was responsible." In those instances in which the complaints were more specifically directed, they were aimed at any echelon of command—from the platoon leader to the Department of the Navy or the Congress. There was no evidence that the men considered the source of their difficulties to be purely local.

Perhaps the main reason why the men did not find particular personal targets for their complaints was that the nature of the complaints and of the military organization made this difficult to do. As a rule, any individual in authority who mentioned to the men their complaints also assured them that he was doing the best he could to rectify them; and the men had little opportunity to find out what was occurring in the higher echelons. Thus, for them the causes of their grievances proved to be a will-o'-the-wisp—a fact which, in itself, caused a further sense of frustration.

For the same reason, it was difficult for them to determine to just what extent their complaints were justified. But they were in no mood to see the situation in proper balance and so tended to assume justification where none had been proven. Where justification was established, they tended to magnify the situation and assume additional proofs which could not be logically substantiated. Rationalization and projection were widely in evidence. The men became increasingly egocentric in their thinking; and—with or without justification—they often expressed feelings of being neglected or ignored by those responsible for their situation.

In addition to such aggressive responses,

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depression was often observed. It gave no evidence of being based on guilt but did seem due to a sense of defeat and was typically associated with an attitude of discouragement. It was commonly accompanied by a reduction in physical activity and an increasing state of mental inertia. The individual in that condition not only failed to take such action as he could to improve his conditions of life overseas, but he also showed an increasing tendency toward self-pity, and thus a vicious circle was formed.

The frustration patterns discussed above were considerably aggravated by the fluctuations in news relating to evacuation. For example, word would spread that a certain group of men would sail for home by a certain date in the near future, and a complete change would come over the men involved in the report, their morale rising sharply. Then word would be received postponing the sailing date by weeks or months or indefinitely, and morale would promptly sink to a new low. Situations of that general type were of frequent enough occurrence to have a significant effect in depressing morale.

Evidences of frustration were seen most strongly in men who had been in uniform for an extended period and who wanted to return to civilian life. The more points toward discharge a man had, or the more wartime service he had rendered, the more frustration he showed at having to remain overseas. The most critical morale problem was found among the men who had more than enough points to go home but who were not permitted to do so promptly for one reason or another. However, even the new replacements adopted the attitudes of the group as a whole, with resultant low morale on their part too. The morale of the men without sufficient points for return home was further aggravated by the general feeling of uncertainty which prevailed. There were so many reports of instances in which men had received treatment considered by the average troop as unjust or unnecessary that the men not infrequently came to anticipate future complications in their own cases long before the actual situations presented. Thus from a feeling of uncertainty there arose at times a feeling of fear which led to rationalization tending to convince the individual that in-

adequate handling of his problems was almost a foregone conclusion.

Low morale was by no means confined to the enlisted men. Officers, particularly those of junior rank, who were anxiously awaiting the opportunity to return to civilian life presented the same general picture, although they were less vociferous in their complaints. When they did verbalize their "gripes" before the enlisted men, the men accepted that fact as justification for their own soured attitudes. Moreover, depression in the officers produced loss of effective interest in leadership and in the effort to rectify such conditions as were subject to local improvement; and this greatly complicated the problem of raising morale.

In general the morale problem was minimal among that minority of officers and men who intended to continue in military service as a career. They recognized that freely complaining about sundry aspects of military life might compromise the chances of success of their careers. Moreover, although most of them wished to return to the United States, they did not have the potent drive toward discharge from the service which was so evident in the great majority of the troops. In most cases their attitude seemed to be one of acceptance of the inevitable in view of the personal advantages which might subsequently accrue to them; or in other words, compliance produced some satisfaction by furthering progress toward their goal of ascendancy in the military hierarchy.

Efforts to improve morale were handicapped by the fact that many of the officers seemed to have an inadequate grasp of the nature of the problem and of how to cope with it. Instances were also encountered with undue frequency in which officers showed no awareness that morale of the men in their charge was at deplorably low levels. There appeared to be several reasons for these shortcomings. Some officers behaved in a manner suggesting relative indifference toward the welfare of the group. Also, the experiential background of the officers was not adequate to meet the situation. They had not had sufficient training in the subject of morale. Moreover, the officers had spent most of their military service either in time of war, when the troops were

in uniform by virtue of obvious dire necessity; or in the years of peace, when the majority of the troops were in uniform because they had voluntarily chosen military service as an occupation. Relatively few of the officers had experienced a period of postwar military demobilization, and the memory of those who had was dimmed by the lapse of a quarter of a century.

From what has been stated above, it might be expected that morale would have been even weaker than was actually the case. There was, however, the very effective stabilizing factor of hope. No matter how dreary the presenting situation seemed, the individual always could find some plausible reason to hope that things would take a turn for the better. Considerable numbers of men were being returned to the United States, so it was apparent some progress was being made. Then, too, there were endless rumors relating to time of evacuation, and the men placed their hope, if not their faith, in the more encouraging ones. Hope provided the main emotional escape from the frustration situation, but it was of net benefit only if the men did not permit it to grow into confidence. When a particular hope failed to materialize, as it often did, the individual transferred his hope to the next best plausible rumor, with resulting minimization of morale decline; but in those instances in which hope was permitted to grow into confidence in a certain result which did not materialize, it was no easy matter to arouse new hope, and the net result was a sharp decline in morale.

MEANS OF IMPROVING MILITARY MORALE

From what has been stated so far certain general conclusions may be drawn as a guide in dealing with the problem of military morale.

In the first place, if the problem is to be handled adequately, it must be well understood by those who are responsible for it. The great majority of officers would benefit by careful study of authoritative material on the subject of morale, recognition of morale level, the factors that influence it, and the means of improving it.

In addition to the ability to deal with the problem, or the knowledge of how to deal with it, the desire to do so is also necessary.

Success will be achieved in proportion to the amount of effort expended; or the more strongly one is motivated toward improving morale, the more likely will he be to succeed in doing so. In fact, nothing raises morale as effectively as the knowledge that one's officers are making every reasonable effort toward the resolution of one's drives.

No one makes any effort to raise morale (or to do anything else) unless motivated to do so. Motivation toward helping the men fulfill their drives may be accomplished to some extent by educating the officers to the importance of good morale among the troops—in terms of group performance as well as in terms of ultimate simplification to the officers' leadership problems. Officers would be further motivated toward improving troop morale if they received more tangible recognition for their successful efforts in that direction, and if they were more often brought to task for their failures—particularly those failures due to lack of intention. Unfortunately, it is by no means uncommon for such failures in leadership to pass unreported and uncorrected.

If morale is related to motivation in the manner indicated, then elevation of morale will result from action taken to meet the drives of the group. In the present instance therefore, the first job is to see that everything possible is done to evacuate those men who are officially entitled to leave the occupation area. The appearances of anything less than full effort to meet this main drive will result in lowering of morale of the men directly involved and also of the group as a whole. The troops will continue dissatisfied as long as appreciable numbers of them are obliged to remain in the military service and yet are not kept busy on worthwhile jobs during working hours. If they believe that their time in uniform is being wasted, they will inevitably show the effects of frustration. Also, it should be made apparent that every reasonable effort is being made to fulfill those drives relating to food, shelter, recreation, and the other comforts, pleasures and conveniences of life in the occupation areas.

Morale will be maintained at adequate levels only if the troops are convinced that reasonable progress is being made toward their main goal. The men have come to

believe that the only reason evacuation and demobilization are progressing as fast as they are is that the military authorities have been forced to action, against their will, by the Congress. They suspect that their military leaders will not take sufficient action in the matter unless forced to do so. In this mood of distrust they are inclined to assume that such action as is taken is inadequate unless the contrary is proven to them. Thus there is an obvious need to "brief" the men more adequately on the problems of evacuation and demobilization. When delays occur in progress toward their main goal, the troops should be informed of the reasons for delay with frankness and sincerity, and it should be made apparent that those delays will be corrected wherever possible. The troops should receive enough information on the general nature of the problems of evacuation and demobilization to broaden their concepts and to reduce their tendency to self-indulgent thought patterns. Thus only can they be enabled to accept a rate of goal progress less than they have hoped for. It must be emphasized, however, that the men will accept no such appeals as long as they find reason to believe that less than full effort is being made in their behalf.

In those cases where the most potent drives cannot be adequately satisfied, arrangements may be made to alter the net drive situation by stimulating drives which can be satisfied. In the case of occupation troops the main drive is directed toward return home. This drive probably cannot be reduced much in potency, and any attempt to do so would arouse hostility. However, the currently weak counterbalancing drive toward performance of occupation duty could profitably be stimulated by educating the troops on the nature and importance of such duty. It does not arouse duty motivation much to tell a man that he must stay in Japan because we have to occupy the enemy's land, any more than it would have aroused his patriotic zeal simply to tell him that we had a war to fight. He needs to appreciate the import of the task in its broader aspects as well as in terms of what it means to him in his daily life, and he needs to see how his particular job and the assignment of his local organization is related to the job as a whole. During the war great effort was expended to educate the people in the over-all

nature of the job to be done, and before going into action the troops were told the tasks that lay ahead of them and why they had to be accomplished. A similar educational effort in relation to occupation duty should help the men appreciate that they are an important element in the accomplishment of a mission which is vital to the welfare of their nation and their way of life; and appreciation of that fact would provide some incentive toward carrying on in their present assignments.

Pent-up emotions should have opportunity for release by catharsis, the most common form of which is "griping." If complaints are heard by those in command and corrected if found to be justifiable, their energy is properly siphoned off, and the consequent relief of dissatisfaction tends to prevent morale decline. Furthermore, such remedial action results in better relationship of the men with their officers and in increased cohesion of the military organization as a social group.

Any reasonable steps taken to enhance social consciousness in relation to the military organization will pay dividends in improved morale. Conversely, the more ego-centric the individual's thinking becomes, the more likely he is to present a problem in morale. The best type of group spirit thrives where it is apparent that the leaders are dominated by an interest in the welfare of the group; and the less the prerogatives of rank are used to the ends of personal gratification, the better will be morale of the enlisted men.

None of the measures suggested above require laxity of military discipline or of soldierly behavior. Kindness and consideration are not the same as softness and indecision. In fact, men submit to military routines and discipline in proportion to their loyalty and identification with their organization and their leaders, and in proportion to their own morale.

SUMMARY

A definition and elaboration of the meaning of morale is submitted. In terms of this definition an analysis is presented of the morale of American troops before and after the end of World War II. The frustration effects of poor military morale and the means of dealing with the problem are discussed.

COMMITMENT OF THE MENTALLY ILL *

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The term "commitment," which is commonly used to denote the admission to a mental hospital under some form of legal sanction, should in this connection probably be reserved only for those cases in which a patient is sent to a mental hospital for an indeterminate period of care and treatment, after a finding by some sort of a tribunal that he is in need of such care. The term is, however, more broadly used to include the various other types of admission to mental hospitals. In those states, by far the majority, in which provision is made for a patient to seek admission of his own volition, reference is sometimes made to "voluntary commitment," although in a way this is a contradiction in terms. There are several other forms of admission to mental hospitals, not of a voluntary nature, but not necessarily involving a definite finding by a tribunal of the need of care in an institution.

Statutory provisions found in a growing number of states¹ for commitment upon the certificate of a health officer (to meet emergency situations where a person unknown in the locality is found to be in need of hospital care, with no relatives available or physicians who are familiar with the person), or upon the certificate of two doctors (to meet sudden and pressing emergencies where a judge

to sign the order is not available) are undoubtedly valid, at least if such commitment is merely temporary, for a limited number of days. It seems to be a clearly settled principle of law that a police officer or, indeed, any citizen, has the right at common law to detain in a suitable receptacle a person who is actually insane and dangerous by reason of his tendencies toward himself or others to be at large, such detention to be only temporary and until legal proceedings for commitment can be instituted. The right to restrain a mental patient whose going at large would be dangerous to himself or to others is analogous to that of cases where one is in a delirium of fever and would break away from his attendants, or one who is afflicted with a contagious disease.²

However, one who restrains another of his liberty, on the theory that he is incapable of rational self-control, assumes the burden of showing that fact and the imminent necessity for the restraint, and assumes also the responsibility for an error in judgment.

In Massachusetts, for example, nearly one-half of the annual admissions to the mental hospitals of the Commonwealth are effected under what is known as "temporary care." Under this provision any police officer, physician or health officer of a city or town may sign a request upon the basis of which a patient may be admitted to a mental hospital for a period not exceeding 10 days. Certainly from the point of view of the patient involved it is far better that the police, for example, to whose attention such a person may come, should have the authority to send him to a psychopathic hospital rather than to lodge him in a jail or lockup. Within the limited period permitted

* This is the second contribution in the symposium on "Scientific Proof and Relations of Law and Medicine."

The paper as here presented has been somewhat abbreviated. It is published *in extenso* in the April issue of *The Texas Law Review*.

The first article in the series, "The Physician and the Federal Narcotic Law," by Commissioner H. J. Anslinger, appeared in the March issue of the *JOURNAL*.

¹ Arkansas, Kentucky, Massachusetts, Missouri, New York, Ohio, Oregon, Rhode Island (city of Providence only), Texas and Utah. Stern, E. M., *Mental Illness: A Guide for the Family*, 103, 1945.

² *Maxwell v. Maxwell*, 189 Ia. 7, 177 N.W. 541, 1920.

by this statute ample opportunity is given for the institution of proceedings before the proper tribunal. It will be noted that the provision here mentioned does not provide for authority to transport the patient. Such transportation in practice is usually provided by the police or by the members of the patient's family.

Still another type of temporary arrangement is sometimes known as "observation commitment," that is, a finding by a suitable tribunal not that the patient is insane but that his mental symptoms are such that his observation is called for for the purpose of determining the need of further hospital care. The period of such observation is usually limited by law and the period is to be followed after the institution reports, either by the patient's discharge, further commitment, or voluntary care.

The voluntary admission referred to is found in at least 34 states of the Union and is an extremely useful provision. Under this a patient who knows that he is in the need of care in a mental hospital and who, in other words, comprehends the fact that he is in the incipient stages of mental disorder, may make written application for admission to a suitable hospital, retaining the right to be discharged upon giving written notice. If after giving notice his condition is such that it would be dangerous to permit his release, there is usually sufficient time intervening to permit the institution of suitable proceedings. The ethical question of whether it is fair play to commit a patient after agreeing to care for him and release him upon his own request is an open one. In what is the only decision known to the writers on this subject (an unpublished one of a single justice of the Massachusetts Supreme Judicial Court) it has been held to be the proper practice to obtain suitable legal authority by commitment proceedings in the event that a patient originally admitted as a voluntary patient subsequently becomes so ill mentally as to be unable to continue to comprehend his need of care and the status on which he is in the hospital.³ It has been held that detention for a reasonable period is proper after written demand for release, and it has also been held that refusal to release without further legal proceed-

ings after a voluntary patient has given notice may be ground for damages for false imprisonment.⁴

"REGULAR" COMMITMENT PROCEDURE

The voluntary admission law is a valuable provision, and comes the nearest to recognizing the fact that the mental patient is a sick person and entitled to treatment as such rather than by proceedings which give first consideration to his presumed dangerousness or his indigency. The most of the half million or more patients who are held in the mental hospitals of the United States, however, are there by reason of the finding by some tribunal that they require care in hospital, that is, they are committed patients.

Present day commitment procedures in the several states vary considerably, but they may be roughly grouped as follows:

A. Commitment by the court.

1. After a mandatory jury trial (Mississippi, Texas) 2
2. After judicial hearing, with or without a jury (Alabama, Massachusetts, Missouri, New Jersey) 4
3. After a judicial hearing, with an examination by two or more physicians (Arizona, Arkansas, California, Connecticut, Florida, Illinois, Indiana, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Montana, Nevada, New Hampshire, New York, Ohio, Oregon, Rhode Island, South Carolina, Tennessee, Utah, Vermont, Washington, Wisconsin, Wyoming) 26
(Of these states, seven permit a jury trial in discretion of the judge or on demand: Illinois, Kansas, Kentucky, Michigan, Vermont, Washington, Wyoming.)
4. After a judicial hearing with examination by one physician (Idaho, New Mexico) 2
5. After an examination by a Commission on Mental Health established by law (District of Columbia) 1
6. After a hearing by a commission in lunacy appointed by the judge (Georgia, Colorado, Pennsylvania, Virginia) ... 4
7. Without a hearing on certificates of two physicians (Pennsylvania, alternative method) 1

B. Commitment by the clerk of the court after examination by two or more physicians (North Carolina) 1

³ See Overholser, W. The voluntary admission law. *Am. J. Psychiat.*, 80:475-490, Jan. 1924.

⁴ *Cook v. Highland Hospital*, 168 N.C. 250, 84 S.E. 352, 1915.

- C. Commitment by a board or commission
1. With judge as chairman (North Dakota, Oklahoma, South Dakota, West Virginia) 4
 2. With clerk of court as a member (Iowa, Nebraska) 2
 3. With exclusively medical personnel.
 - (a) Board of trustees of state hospital (Delaware) 1
 - (b) State Psychopathic Hospital staff members (Iowa, alternative method) . 1
- D. Commitment by town or county officials on examination by two physicians (Maine, Maryland) 2
(In Maryland, this procedure is subject to the right to demand a jury trial.)

As the above summary shows, in only one state, Delaware, is the entire commitment procedure handled by an exclusively medical as distinguished from a judicial or legal body. Under the Delaware procedure, the patient is examined by two physicians, and their certificate, together with the petition, are sent direct to the superintendent of the state hospital. The patient is placed in the observation clinic of the hospital and if found to require continued hospital care, the superintendent so reports to the board of trustees. The board may call a jury of six if a jury trial is demanded by the patient or a relative. Where a jury trial is not demanded, the board appoints a commission of two qualified and licensed physicians to make an examination and file a written report. The board acts on this report. The person has a right of appeal to the chancellor of the state.

In Iowa, commitment may be had merely on the written application of a responsible person and the certificates of two qualified physicians, but nothing more. This is used in probably at least 60% of admissions.

A bill to allow a somewhat similar procedure was vetoed by the Governor of Illinois in 1941 on the ground that it violated due process. In 1945 a bill was enacted in Illinois amending the state's commitment law to provide three alternative procedures: (1) if demanded by the person or in his behalf, a jury trial before a jury of six, one of whom must be a physician; (2) if no jury is demanded or deemed necessary, an examination and report by a commission of two physicians appointed by the court, the commission having power to compel attendance of witnesses and to take testimony; (3) if

no showing is made that trial by commission is desirable or necessary the court may proceed to hearing on the petition and certificates of two physicians.

The lack of uniformity in procedure among the several states is due to the fact that commitment of mental patients is wholly a local matter which under the federal constitution is left to the states. The federal government has no control over the matter except in the District of Columbia.⁵

The general pattern of the commitment procedure in the various states includes the following steps:

1. *Petition.*—Commitment proceedings are usually set in motion by a sworn petition filed in a certain court. In some states the criminal pattern is followed by referring to the petition as a "charge."⁶ The statutes normally specify the persons who may make such petition—near relatives, friends or certain officials. In some states application may be made by any reputable citizen. In Florida, the signatures of five reputable citizens are required, only one of whom may be a relative. This seems unduly restrictive. It is hard to get so many persons to make a formal statement that the patient is in their opinion insane. In the states where commitment is by commission and not by a court or judge, of course the application is made to such commission or to a member thereof. Once such proceedings are instituted, they cannot be dismissed by the petitioner because the proceeding is one in which the public has an interest.

2. *Certificate.*—Generally, a certificate that the person is mentally ill and in need of confinement, signed by one or more reputable physicians, must accompany the peti-

⁵ In 1854 Congress passed a bill which had been sponsored by Dorothea Lynde Dix, making a grant of 10,000,000 acres of public lands to the several states, the gross proceeds from the sale of which were to be invested by the states and used for the maintenance of the indigent insane. The bill was vetoed by President Pierce as unconstitutional. Richardson, *Messages and Papers of the Presidents*, 5: 247. It is probable that such legislation today would be held a valid exercise of Congress' power to appropriate for the general welfare.

⁶ As recently as 1944 the Florida Supreme Court referred in a decision to "persons charged with lunacy"! *Bradshaw v. Miami Retreat Foundation*, 19 So. (2d) 574, 1944.

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tion. It is commonly provided that the certifying physician may not be related to the patient or be financially or otherwise connected with the institution to which it is proposed to commit him.

3. *Notice*.—The majority of state statutes require notice of the proceedings to be served upon the alleged insane person. Even where there is no such express requirement, it has been said that it is presumed that reasonable notice was intended to be given. If actual notice was given, the essential element of due process is met, even though the statute did not require notice. Where the person was actually present at the proceedings, he has necessarily had notice. However, where the statute requires that notice be given a reasonable time in advance of the hearing, it has been held that notice given on the same day that the hearing is had is not sufficient. In New York and a number of other states, if the judge decides that personal service would be ineffective or detrimental to the person's health, notice may be served instead upon relatives or friends.

4. *Arrest*.—In Alabama, California, Colorado, Idaho, Montana, and other states, at the same time that the alleged sufferer is served with a copy of the complaint, he is also handed a warrant ordering the sheriff to take him into custody and convey him to a named hospital or before the court. A rationale of this practice has been offered by the Alabama Supreme Court:

The wise policy of the statute requiring that the sheriff take the person of the alleged lunatic into his custody is to bring the alleged lunatic notice by restraining him of his liberty, so that if he has any mind at all he will realize that he must defend in order to remove this restraint, and, if not, persons interested in his freedom and his property rights may come to his aid. Anything short of this cannot be approved as due process of law.⁷

The "wise policy" of the Alabama statute has not recommended itself to the states having the most modern and carefully drawn commitment laws. The latter states rather act on the sound assumption that a person who cannot by other means be made to understand that proceedings have been instituted to commit him probably will not be enlightened by being taken into custody by

the sheriff. Indeed, in most of the states the detention of the mentally ill in jails or lock-ups is strictly forbidden by statute.

In 1941, North Carolina enacted a statute providing that if the affidavit states that the person's condition is dangerous to himself or to others, or if the sheriff considers him so, the clerk shall order him incarcerated in the county jail until his sanity is judicially determined. This statute sanctioned what apparently had been the actual practice.

Medical Examination.—In the majority of states, as stated above, the court appoints physicians to examine into the mental condition of the person. Such examination is usually at the patient's home or at the hospital where he has been placed for the purpose. The examiners report their findings to the court. The Michigan Supreme Court has held that a statutory requirement that certificates of insanity must be made by two reputable physicians under oath, appointed by the probate court of the county of the person's residence, is "jurisdictional," and failure to comply strictly with the statute renders the commitment proceeding a nullity.

Hearing.—In only a few states do the laws not require a hearing. Usually the hearing is before the judge or court, sometimes before the commission in lunacy appointed by the court. Of course in the four states where the commission is itself the committing tribunal, independent of the courts, the hearing is before the commission.

Jury Trial.—Although only two states make a jury trial mandatory, nine others provide for trial by jury either in the discretion of the judge or on demand of the person concerned or his relatives or friends. In addition, in some states where the statutes make no express provision for jury trial, in practice such trial is sometimes granted on demand. In a number of states the hearing, although before a judge, is specifically required to be held in chambers, and not in open court.

The allegedly insane person is generally required to be present at the hearing—this in protection of his right to hear the evidence and confront the witnesses against him. Only a minority of states recognize that the compulsory observance of this "right" may do a person whose mental condition is in question more harm than good. These states

⁷ *Fowler v. Fowler*, 219 Ala. 453, 122 So. 440, 442-3, 1929.

provide that the person need not be present where the court or commission decides that his presence may be detrimental to his health.

The question of jury trial is one which has provoked much discussion, and there are certain groups who, impressed by the safeguards cast about those accused of crime, would seek to apply them to the medical problems of the mentally ill. So far as the United States Constitution is concerned there is no guarantee of jury trial in cases of this sort and it has been held in a number of the states that the constitutions of those states do not require jury trial for the deprivation of liberty on this ground.⁸ They have been held to apply only to criminal cases. In other states it has been held that a right to jury trial exists under the state constitution. Anyone who has seen the jury trial for commitment in action, as it existed, for example, until 1938 in the District of Columbia, must have been shocked to see such a travesty upon all that is considered humane and decent in the care of the sick. The trappings are those of the criminal court room, with the judge on the bench and the jury in the box, the defense attorney and the prosecutor in court. The hapless patient is brought in, the charge is read to him, testimony is given by the doctors, the latter are cross-examined by the "defense" attorney, and the jury, who may never before have seen a mentally ill person, are called upon to say whether the patient is of unsound mind or not.

In Texas the proceedings (before a jury of six) are conducted by the county attorney in the name of the state as plaintiff against the patient as defendant, who must be represented by counsel. The "charge" that he is insane is read to the patient, and the proceedings must be entered in the minutes of the court, a transcript being sent to the hospital if the patient is committed. The finding is conclusive, and constitutes an adjudication. Texas is probably the most striking example of the ancient custom of equating the mentally ill person with the criminal.⁹

⁸ In re Bresee, 82 Ia. 573, 48 N.W. 991, 1891; Stizza v. Essex County Court, 40 Atl. (2d) 567, 1945; Ex parte Scudamore, 55 Fla. 211, 46 So. 279, 1908; Ex parte Dagley, 35 Okla. 180, 128 Pac. 699, 1912.

⁹ See: 24 Texas Jurisprudence, 1933, "Insane

There is no assurance under such a procedure either that the sane person will be freed or that the mentally ill will be committed. Incalculable harm, however, may be done to the mental condition of the patient himself, who may already be suffering from the delusion that he is a criminal. Certainly when he is finished with the ordeal he is likely to think that he is completely abandoned by friends and family!

Commitment.—On a finding that the person is so mentally ill as to require commitment, the court issues an order authorizing such commitment. In a number of states, the execution of this order is treated like an arrest and imprisonment of a convicted felon. A warrant is issued ordering the sheriff or police to take the person into custody and convey him to a named hospital. In some states, the patient is actually handcuffed or manacled. In some, he must first be conveyed to the jail and kept there while arrangements are made for his admission to the hospital. Hospital authorities have properly protested at this practice. The Colorado Psychopathic Hospital has been obliged at times to make its objection felt by flatly refusing to accept patients brought to it in patrol wagons. In New York and about fifteen other states, attendants from the state hospitals are available to transport the patients. In at least 26 states it is provided that a female patient must be accompanied by her husband, a blood relative, or a female attendant in addition to other escort. The wisdom of such a provision is self-evident.

A study of the method of admissions in 18,549 cases in 26 state hospitals some years ago showed that over 12,000 or 64 percent, were taken to the hospital by the sheriff, a deputy sheriff or police officers. Twenty-nine percent of these patients were lodged in jail pending transportation to the hospital.¹⁰

GUARDIANSHIP OR INCOMPETENCY

It may be well to emphasize here the distinction between a judicial determination of

and Incompetent Persons." See also Weihofen, H., Commitments of Mental Patients, 13 Rocky Mt. L.R. 99-114, Feb. 1941; also Kerschbaumer, L. A. Patient's Reaction to a "Lunacy Charge." J. Nerv. & Ment. Dis., 101, 378-381, Apr. 1945.

¹⁰ Bevis, W. M. Paper presented before Am. Psychiat. Assoc., 1937 (unpublished).

incompetency, and a commitment to an institution. If a person is found to be so disordered mentally as to be incompetent to manage his own affairs, the law provides a procedure for placing him under guardianship, taking from him the control of his business and financial affairs. This is admittedly a serious step, and may involve winding up a business, dissolving a partnership, etc. Commitment to a hospital in the most populous states involves no such determination of incompetency.¹¹ In these states, the fact that a person is or has been a patient in a mental hospital is, of course, competent evidence to introduce in any case where the person's mental competency is in question, but such commitment is not conclusive of this question. In some states, however, the finding of committability constitutes an adjudication as well. Only a small percentage of the persons committed to mental hospitals are under interdiction as incompetent, and probably all hospital authorities would agree that where reasonable hope of recovery exists, and the patient's affairs can be managed for him without guardianship proceedings, resort to such proceedings, with their costs, publicity and other unfortunate concomitants, should be avoided if possible. Many persons in need of care in a mental hospital may still properly be allowed to handle their own affairs. After all, many people are confined to general hospitals with fevers and illnesses which render them equally incapable of taking care of their responsibilities for long periods without anyone's ever suggesting that a guardian be appointed for them.

COMMITMENT OF SPECIAL CLASSES OTHER THAN INSANE

So far we have dealt with the commitment of those persons who are found to be mentally ill or, legally speaking, insane. There are certain other groups of individuals suffering from mental disorder of one sort or another for whom special provision has been made in institutions either on a voluntary or involuntary basis. Of these groups the largest is that of the feeble-minded or mentally defective;

that is, those persons whose mentality has never reached a normal level. Although the mental defective may be in the eyes of the law insane, he is usually distinguished by psychiatrists from the mentally ill as being non-psychotic, that is, as not having an acquired mental disease. A mental defective may, of course, develop a psychosis or mental disorder which will call for his commitment to a mental hospital as an insane person. The vast majority of mental defectives, however, are quiet and orderly but some of them require guidance and training which can best be given within an institution. Most states have set up separate institutions for the feeble-minded, which are usually referred to as schools rather than hospitals, since the emphasis is primarily on training and education. Just as a distinction was made in the time of Coke between the "idiot or fool natural" and the "lunatic,"¹² so today we find in most states that the mentally defective are not dealt with by the same courts as the mentally ill or "insane." Usually the mentally defective are committed by the courts having to do with adoptions and guardianships, that is, probate, surrogate's, chancery or orphans' courts. The general principles underlying the commitment, that is, at least a certain minimum of hearing and the presentation of medical evidence, obtain as in the case of the commitment of the insane. Usually rather than dangerousness the question of the need of protection is emphasized as a justification for the commitment of the feeble-minded person. Another reason for the emphasis upon this aspect is that probably every school for the feeble-minded in the country is overcrowded and has a waiting list in addition. Beside the court commitment of the feeble-minded some states have a provision whereby the responsible parent may sign an application for the admission of his minor feeble-minded child to an institution. This is an extension of the parent's general rights as a guardian and is valid until the child reaches his majority. In the event that an inmate of a school for the feeble-minded develops an acute mental illness arrangements are usually made to send him to a mental hospital in the ways provided by the statutes of the jurisdiction involved.

¹¹ *Leick v. Pozniak*, 135 N. J. Eq. 67, 37 A. (2d) 302, 1944, and cases cited in 7 A.L.R. 573.

¹² *Beverley's Case*, 4 Co. 123 b. 76 Eng. Rep. 1118, 1603.

CRIMINAL INSANE

The provisions for the commitment to mental hospitals for persons under indictment or sentence are so different from those relating to the non-criminal groups that they should be considered separately. The issue of insanity in the case of an alleged criminal may come up at several different points of the proceedings. The prisoner being in the care of the state under some form of arrest, the question of taking him into custody does not arise. If any allegations as to apparent mental disorder are made by counsel or by the jail authorities or by other persons, or if the defendant appears to the judge to be in need of observation to determine his fitness to stand trial the judge may have him examined in the jail or, in some states, may commit him to a mental hospital for a period of observation. The issue of triability is in any event to be determined by the judge.¹³ In Colorado it is mandatory that if an allegation of insanity is made the judge shall commit to the state mental hospital for an observation period of 30 days. If the court commits for observation it still retains jurisdiction over the patient and may order him returned from the hospital to the jail. The court may find the prisoner insane and commit him until he is sufficiently restored to be put on trial. The statutes usually provide for commitment to a mental hospital; at common law there was probably authority only to order the defendant confined in jail. It has been held that a mental examination of a defendant does not constitute self-incrimination.¹⁴

The defendant having been found to be fit to be tried may nevertheless plead that at the time of the act alleged he was insane and for that reason not responsible. This is an issue which has to be determined by the jury, since the mental state of the defendant is an essential element of the criminal act alleged. If during the trial the defendant becomes insane the judge may usually forthwith suspend the trial and determine the

question of his mental fitness, or, as in the federal courts, submit the objection to the jury along with the principal issue. In most states the defense of insanity may be introduced under the general plea of "not guilty." In some states, however, the separate plea of "not guilty by reason of insanity" has to be entered, and in three states, California, Louisiana and Maryland, in addition to Colorado (where it appears to be optional with the judge), a separate trial of the insanity of the prisoner is required. In California the *first* trial determines the guilt or innocence and the *second* trial that of the mental state at the time of the criminal act. This procedure is open to serious criticism and is certainly cumbersome and time-consuming.

If the jury finds that the prisoner is not guilty by reason of insanity the question of his disposition arises. In four states¹⁵ a separate trial has to be ordered after the rendering of such a verdict in order to determine whether the prisoner is still insane and in need of confinement. This likewise is an awkward and objectionable arrangement. At common law the judge has the right to order the prisoner confined upon acquittal by reason of insanity if, in his opinion, such confinement is necessary for the safety of the prisoner or the public, and in at least 38 states the judge either must or may commit the defendant to a mental hospital.

An interesting provision is found in Massachusetts, following the English practice which has been the law since the English Criminal Lunatics Act of 1800. Under this provision in the case of a homicide the court must, if the prisoner is acquitted by reason of insanity, commit him for the term of his natural life to a mental hospital. Release in this case comes only through the governor and council as a matter of grace upon certification by the Department of Mental Health that the prisoner may be released without danger to himself or others.¹⁶ The resemblance to the principle of detaining "until His Majesty's pleasure shall be known" is obvious. In North Carolina in a similar situation the prisoner may be released only by act of legislature and in Georgia as well,

¹³ *State v. Davis*, 6 (2d) Wash. 696, 108 Pac. (2d) 641, 1940. "This power rests in the sound discretion of the trial court, and may be exercised at any time the court deems such an investigation appropriate."

¹⁴ *Peo. v. Esposito*, 287 N.Y. 389, 39 N.E. (2d) 925, 1942.

¹⁵ Arizona, Idaho, Montana, and Utah. See Weihen, pp. 272-3.

¹⁶ Mass. Ann. Laws c. 123, sec. 101. See Gleason v. West Boylston 136 Mass. 489, 1884.

although in North Carolina the legislature was compelled by a judicial decision to provide that the provision should not be construed as preventing the prisoner from applying for a writ of habeas corpus. In most states the writ of habeas corpus is preserved intact in cases of criminal commitment.

If a prisoner serving sentence becomes insane provision is made in most states, at least, for his commitment to a mental hospital. This is sometimes by means of administrative transfer but in some instances calls for a separate adjudication. The time spent in a mental hospital usually is credited to the prisoner's sentence and if he is discharged by court or by the hospital before his sentence has expired he is returned to serve the balance of it in the institution from which he was committed. In the event that a prisoner under sentence of death is found to be insane provision is usually made by statute for a reprieve and commitment to a mental hospital pending recovery.

SEXUAL PSYCHOPATHS

Four states (California, Illinois, Michigan and Minnesota) provide for the indeterminate commitment of "sexual psychopaths" as distinguished from the "insane." One of these laws, that of Minnesota, has reached the Supreme Court of the United States and has been sustained.¹⁷ The concept of mental disorder is thus extended beyond the ordinary confines of "insanity" or mental defect. A few states also provide for the commitment of defective delinquents, that is those offenders who are mentally defective and dangerous by reason of such defect.

DISCHARGE FROM HOSPITAL

One of the common misconceptions about mental hospitals is that patients once committed are rarely, if ever, permitted to leave. The statistics of admissions and discharges to mental hospitals in the United States as published by the Bureau of the Census offer an ample refutation of this idea. For the approximately 250,000 admitted annually about 160,000 are discharged in the same period,

not including those who die or are transferred to other hospitals.

The general rule is that the administrative head of the institution to which the patient is sent is the one who has the authority to release or discharge him, almost always without reference to the committing authorities. There are certain exceptions to this. Obviously in the case of a person under sentence or indictment he would be discharged back to the authority which sent him to the hospital. The number of such criminal cases, however, is relatively small. In the case of patients admitted under one of the temporary provisions; such as, temporary care, voluntary admission, emergency commitment, or observation, the discharge is a complete one. In the case of regularly committed patients, however, there is usually a provision that the superintendent may release conditionally or on temporary visit or "parole." The control of the patient, that is, may continue over a period, usually limited by statute to six months or a year, during which the hospital may aid him in reestablishing himself to the requirements of community living. These conditions may have to do, for instance, with his occupation or his place of living. The right to establish such rules has been affirmed by the Supreme Judicial Court of Massachusetts in a recent case "for obvious reasons of public policy."

Authority is given also in a few states to board the patient with a private family for an indefinite period, such residence under the control of the hospital, generally known as "family care," being considered constructive presence of the patient in the institution. This provision, first adopted in Massachusetts in 1885, remained unique until the economic pressure of the great depression forced several other states to follow the example of Massachusetts. During the period of boarding out or visit the patient may be returned to the hospital without further legal process.

If he is not boarded out but is merely released on visit and does not return to the hospital within the stated period the patient is usually considered to be discharged, in which case further commitment is necessary for his return. Most state laws likewise make some provision for the compulsory return of patients who leave without permis-

¹⁷ Minn. Session Laws 1939, c. 369; Minn. ex rel. Pearson v. Probate Court, 309 U.S. 270, 60 S. Ct. 523, 84 L. ed. 439, 1940.

sion, that is, who escape. Commitment being a civil matter, however, extradition from another state does not apply. If an escaped patient is apprehended in another state he is usually committed under the laws of that state and then returned as an administrative matter to the institution from which he escaped. In the event that an adjudication of incompetency is a part of the commitment proceedings or if such an adjudication has been made independently separate proceedings must be instituted, even though the patient is discharged from the hospital, that is, discharge is not necessarily synonymous with restoration of legal rights.

This discharge procedure is entirely logical. It should require no argument to demonstrate that the authorities of the hospital where the patient is under daily supervision and to whom the facts of his previous history and of his mental state are best known are the persons who should exercise the determination of his fitness to be returned to the community. Practically all of the public institutions in the country are crowded, so that the pressure on the authorities is constantly toward discharge. Furthermore, the heads of these institutions are public officials and presumably, like judges and other public officials, are carrying out their duties properly. As a matter of fact the public probably is inclined to agree that very little improper detention is practiced in the public institutions. The doubts, if any, might be entertained regarding those institutions not operated by the public, but voluntary and often proprietary, in which, some remote suspicion of improper conduct for pecuniary gain might on rare occasions arise.

The remedy for this objection is relatively simple. Most of the larger states have official supervisory bodies, some, at least, of them headed by competent psychiatrists.¹⁸ These organizations known usually as the Department of Mental Health, or Mental Hygiene, or Board of Control or Department of Public

Welfare, have a general supervisory function over all the institutions, public and private, caring for the mentally ill. In such states, for example, any patient may write under seal and uncensored to the Department and this mail must be forwarded by the institution. The commitment papers for all admissions, public and private, are examined and the patients are usually interviewed routinely. Certainly in any case in which a question arises from the patient or from persons in his behalf the Department may investigate, have an impartial examination made and if it considers proper, order the release of the patient. There is, then, an administrative appeal in the better organized state departments quite distinguishable from that involved in hearings on petitions for writs of habeas corpus by the courts of the state.

HABEAS CORPUS

Since confinement in a mental hospital, whatever it may be called, and whether or not it be for the purposes of treatment alone, unquestionably constitutes deprivation of liberty, therefore any person so confined is entitled to petition the appropriate court for a writ of habeas corpus in order to determine whether his detention is legal. As we have seen above, there are a very few states in which special cases involving acquittal of serious crime by reason of insanity may have some limitation placed upon their right to petition, but these are highly exceptional. In some states the writ is used almost not at all by mental patients, whereas in some jurisdictions, notably the District of Columbia, the number of petitions filed by the patients in the mental hospital has in the recent past attained such proportions as to call for judicial attention and correction.

The use of the petition for habeas corpus in mental cases may involve one of two questions: first, whether the proceedings for the commitment of the patient were in accordance with law and carried out in a court of competent jurisdiction; and second, if the commitment was legal, whether the condition for which the patient was committed, namely, insanity, is now continuing or whether the patient has been restored to mental health and therefore should be released. It has been held that the court under habeas corpus

¹⁸ Massachusetts has stringent statutory requirements concerning the professional qualifications of the Commissioner of Mental Health, including certification by the Am. Board of Psychiatry and Neurology, Ann. Laws, 1944, c. 19, sec. 1 whereas since 1943 in New York, with about 100,000 patients in the state hospitals, the Commissioner of Mental Hygiene need not even be a physician! N.Y. Laws 1943, c. 691, sec. 1,

proceedings cannot consider any testimony that the petitioner was sane at the time of commitment. As the Massachusetts Supreme Judicial Court said in 1853, "it is not to inquire into the merits of a judgment under which a party is committed; otherwise, this very summary proceeding, regarded as so important to the security of personal liberty, would come to be regarded as a mere general appeal or writ of error in all cases of conviction followed by sentence of imprisonment."¹⁹ It has likewise been held that if the evidence indicates that one committed to an institution is actually insane the court should not order his discharge, regardless of the invalidity of the proceeding under which he was committed, but should direct his continued restraint until such time as proper proceeding can be had for a formal adjudication.²⁰ The United States Supreme Court has stated that if sufficient ground for detention by the government is shown the prisoner is not to be discharged for defect in the original arrest or commitment. It would be well if courts had in the past followed this principle consistently in the release of mental patients who are considered after a brief interview by the judge to be of sound mind! The story is still told in the District of Columbia of a mental patient who a few days after his release on habeas corpus shot and killed the lawyer who had represented him in the proceeding!

A patient, whether adjudged incompetent or not, is presumed for the purposes of initiating proceedings of this type to have sufficient mental ability to "start the court's machinery in motion." After that he must be represented by counsel or by a guardian appointed by the court. A jury is not required unless specifically called for by statute, but the court may in its discretion impanel a jury, its verdict to be advisory only.

Presumably the petitioner must be in a position to adduce some evidence to support his claim that he has recovered his mental health. This places the impecunious petitioner in a difficult situation, since he is unable to employ the services of a psychiatrist to make a private examination. A public

institution may reasonably be expected to have the interests of the petitioner at heart and to be reasonably impartial in its report. Obviously, however, it labors under some suspicion of bias since it is the respondent, and in any event the necessity of the hospital doctors having to appear in what appears to be an adversary position against the petitioner is extremely undesirable from the point of view of the hospital, since it destroys entirely the physician-patient relationship with the petitioner. For this reason the Court of Appeals of the District of Columbia has authorized the petitioner to demand the expert testimony of members of the commission on Mental Health (the committing authority of the District, appointed by the judges of the District Court), or the Court itself may require the Commission to examine the petitioner and report. Other courts too have pointed out that the court assumes a grave responsibility when it orders a petitioner discharged whom the superintendent of the institution considers unsafe to be at large²¹ and that in such a case there should be expert opinion evident to sustain a release by the court. The multiplicity of petitions for writs of habeas corpus in the District of Columbia had reached such a height early in 1945 that the Court of Appeals made some caustic comments: "Here petitions for the writ are used, not only as they should be to protect unfortunate persons against miscarriages of justice, but also as a device for harassing court, custodial and enforcement officers with a multiplicity of repetitious, meritless requests for relief." They found that in a period of nearly five years one person had presented fifty petitions, another twenty-seven and another twenty-four, and a total of 119 persons had presented an average of five each during that period. Of these, 44 percent were from the mental hospital in the District of Columbia. The court overruled the earlier decision which was largely responsible for the vast and footless increase in petitions, and laid down some new rules regarding the proper procedure. Briefly, the court concluded that "habeas corpus is available, not for the purpose of determining a petitioner's mental

¹⁹ Clark's Case, 66 Mass. 320, 1853.

²⁰ Barbee v. Kolb, 207 Ark. 227, 179 S.W. (2d) 701, 1944; Kuczynski v. U.S., 149 F. (2d) 478, 1945.

²¹ Ex parte Rath, 143 Wash. 65, 254 Pac. 466, 1927; Overholser v. De Marcos, 149 F. (2d) 23, 1945.

condition but instead as a method of initiating an appropriate procedure for that purpose." They went on to say, that in no case of a person held in St. Elizabeth's (the mental hospital) because of insanity should a judge order his release unconditionally in a habeas corpus proceeding. "It would be as unwise to discharge such a person without a scientific investigation as it would be intolerable to compel the continued confinement of a person whose sanity has been restored." A petition for certiorari on this decision has been denied by the United States Supreme Court.

THE MEDICAL VERSUS THE LEGAL VIEWPOINT

Despite the impatience of medical men and others, it is nevertheless true that legal "technicalities" represent the lawmakers' effort to apply principles of fairness and justice in dealing with human rights established only by the blood and sweat of bygone generations who saw and suffered the effects of more summary methods. It is a precious heritage that gives us the right to insist that a man be served with notice of the pendency of any legal action in which his rights may be affected, and have opportunity to be present, confront and cross-examine those who give testimony against him, and introduce any testimony he may have in his own defense—instead of having his rights decided in a secret "star chamber" proceeding, and his life or liberty taken from him by a "lettre de cachet" calling for his confinement or liquidation without notice or hearing. The terms "star chamber" and "lettre de cachet" describe no imaginary evils dreamed up by cautious lawyers, but very real practices current not so many hundreds of years ago, and hardly exceeded in arbitrariness, tyranny and injustice by practices rampant in Germany and elsewhere in our own times.

Safeguards designed to guarantee a fair procedure and to prevent the abuse of the commitment laws and the unjustified restraint of persons proper to be allowed at liberty are therefore not mere technicalities and formalities to be pushed aside in favor of a summary commitment procedure.

Medical writers are inclined to refer critically to legal decisions holding, for example,

that only an insane person who is *dangerous* to himself or to others may be restrained of his liberty by another. Reading of the opinions in the cases cited, however, reveals that they adopt the entirely wholesome rule that a *private individual*, acting wholly on his own responsibility and without the sanction of any legal process whatever, can take it upon himself to lock someone else up as insane only when the person so confined is actually insane and dangerous to be allowed at large, and then only temporarily, until legal proceedings can be instituted.

Under a contrary rule, "every cage would be a licensed private mad-house."

That errors and miscarriages of justice are possible even in these enlightened times and notwithstanding the existence of statutes carefully safeguarding the liberty of the individual against arbitrary or false commitment, is illustrated by an occasional case which has come before the courts.

On the other hand, it is true that the statutory provisions of many of our states reflect a point of view dating from a time when the institutions were regarded merely as places of custody and restraint of liberty for fear of the harm their inmates might do if left at large. The modern mental institution is a hospital, designed to treat and cure disease by the application of medical science, and possessing facilities for promoting the mental and physical comfort of the patients. Legislators have accepted this newer hospital view at least to the extent of formally changing the name of the institutions from "insane asylums" to "state hospitals" and by appropriating the funds to permit them to carry on their modern functions, but this recognition has still not carried over to acceptance of the idea that the facilities of these hospitals should be accessible to those who need their services as fully and freely as other hospitals are available, without hindrance from unnecessary legal formality. The very term "commitment" is an inheritance from the time when the insane were treated as disorderly characters and committed to a jail, and in too many states the "commitment" procedure is still obviously patterned after that governing conviction of crime.

The problem, then, is to eliminate the legal requirements which serve no useful purpose and which may even do harm, without sacri-

facing those legal safeguards necessary to protect the liberties of the individual. To accomplish this end, it is necessary for the lawyers to recognize that commitment to a mental institution involves unique considerations not involved in ordinary cases where the parties are presumably sane, and that the ordinary concepts of what due process requires therefore do not necessarily apply. It is one thing to say that no (sane) person's rights should be legally determined without a hearing, of which he must be served with notice and at which he must be given the right to attend and defend. It is quite another matter to say that a person whose friends or relatives have petitioned to have him committed to a mental institution, and whom two or more physicians have certified as requiring such commitment, must be served with a legal notice that such proceedings have been commenced, without regard to the effect which such notice may have upon his condition, and must be put to the experience of sitting through a legal hearing and listening to loved ones and the family physician, who perhaps has labored hard to win the patient's confidence, testify to his infirmities. The legal-minded reader will say, but suppose the person is actually sane, surely he should be given notice and allowed to prove his sanity. The answer must of course be in the affirmative; but even the

most suspicious person must admit that this is the exception rather than the rule; that the vast majority of commitment cases are not attempts to "railroad" sane men into an institution. We need a procedure which will adequately protect the sane without needlessly subjecting the sick to heartless and harmful mental torture. The ordinary forms of judicial procedure are not adapted to accomplish this. A special procedure is called for.

The concept of due process is not so inflexible as to prevent special procedures to meet special needs. On the contrary, due process contemplates a process which is appropriate to the case and just to the parties to be affected, and which is adapted to the end to be attained.

As long ago as 1869, Dr. Isaac Ray stated the legal provisions that would most effectively meet the necessities of the case:

In the first place, the law should put no hindrance in the way to the prompt use of those instrumentalities which are regarded as most effectual in promoting the comfort and restoration of the patient. Secondly, it should spare all unnecessary exposure of private troubles, and all unnecessary conflict with popular prejudices. Thirdly, it should protect individuals from wrongful imprisonment. It would be objection enough to any legal provision, that it failed to secure these objects, in the completest possible manner.²²

²² Confinement of the Insane. Am. Law Rev., 3: 193, 208, Jan. 1869.

A GERONTOLOGICAL TREATISE OF THE RENAISSANCE

"DE BONO SENECTUTIS" BY GABRIELE PALEOTTI (1522-1597)¹

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Montreal, Que.

The following is a note on a gerontological monograph which is nearly four centuries old and which is now of considerable historic interest. The book seems to have been in complete oblivion, at least as far as medical literature and works on the history of medicine are concerned.

THE AUTHOR

It is no surprise to find that during the sixteenth century, the century of the great humanists, the problems of old age are discussed on a systematic basis—to our knowledge, for the first time again since antiquity. As is characteristic of the period of Erasmus, Vives and Thomas More, the treatise which deals with aspects of human life not exclusively organic, was not written by a medical man.

Gabriele Paleotti was a jurist, theologian and philosopher. He was born October 4, 1522, at Bologna. He studied law at the University of Bologna where he graduated as a Doctor of Law at the age of twenty-four. Soon he received an appointment to teach civil law at that university. In 1549 he became Canon of the Cathedral of Bologna without, however, being a priest, apparently on account of his knowledge of canon law. He was subsequently ordained, and had a brilliant ecclesiastic career. In 1555 he gave up his university appointment. He played an important rôle at the Council of Trent, and in 1565 he was made a cardinal. Like all humanists he distinguished himself by an ardent zeal for reform. He died in Rome July 22, 1597, at the age of seventy-four.

It appears that "De Bono Senectutis" is the only one of his works not dealing with legal or ecclesiastic problems. It was first published in Rome in 1595, two years before his death. Apparently he wrote it at his

leisure when he himself was old. Whatever prompted this man to write a book on the problems of old age is rather obscure, if it was not the tendency characteristic of the men of his time to take up the threads where ancient authors had left them and to enlarge on certain ideas of antiquity by bringing in Aristotelian-Thomist concepts. In the particular case of old age there existed such famous treatises as that by Cicero, and to a humanist of the sixteenth century it was obviously tempting to carry on where Cicero had left off.

THE BOOK

The edition available for this study is a print published in Venice in 1754 (Fig. 1).² This seems to have been the second printing in Latin following the original publication in 1595. There existed, however, an Italian translation published in 1597, two years after the original publication. From the sources available, the book appears so far not to have been translated into any other language.

It is written in three parts, and is clearly subdivided by numerous headings and sub-headings which make an elaborate and detailed table of contents, very much in the style of the times. There are numerous quotations from the literature, and the references are given clearly in marginal notes. The author's knowledge of ancient literature is profuse, to say nothing of his quotations from biblical and patristic texts. Thus there are few philosophers between Aristotle and Thomas Aquinas whose word is not taken to prove one point or disprove another. The most extensively quoted author, outside the Bible, is Aristotle. In contrast to this it is quite interesting to note that Plato is quoted but three times in the entire treatise. Cicero, Seneca, Plutarch, numerous other Latin and Greek writers, the Greek dramatists and

¹ From the Allan Memorial Institute of Psychiatry, and the Department of Psychiatry, McGill University.

² Courtesy of Redpath Library, McGill University.

DE BONO SENECTUTIS

AUCTORE
GABRIELE
PALÆOTO

S. R. E. CARDINALI

Corona Senum multa peritia : &
gloria illorum timor Dei.
Eccl. viii. 17.



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Fig. 1

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Latin poets, are referred to frequently; so are Galen and Pliny, less frequently Hippocrates. We find St. Augustine quoted nearly as often as Aristotle, and only a little less frequently, St. Thomas.

At the beginning the author sets out to give a review of opinions of the classical writers of the pre-Christian era. It is a critical review of the literature, enlarged by the author's comments and opinions. In the second part he seems to review mainly books which were added since then, namely those of Christian authors, and then proceeds to discuss common objections against old age. The rest of the book is devoted to some sort of apologia; the author obviously intended to prove that old age is not merely a negative phase of life but has its specific value, obtainable at no other period, and to discuss certain problems of old age, problems which the minister of religion frequently has to face during his work with human beings.

Needless to say, the larger part of the book is of little interest to the historian of medicine. It is concerned with problems of moral and religious philosophy. Nevertheless there are, here and there, portions of great interest to those studying the medical or psychiatric aspects of gerontology. Moreover, to the social psychologist it gives an insight into diverse opinions on old age prevalent in various cultural settings.

There are only sparse references to the physical illnesses of the aged. However, it is rather interesting that the author distinguishes clearly between diseases specific of that life period and those which are accidental to it.

... Some of these are called illnesses pertaining exclusively to old age; others may also be associated with other life periods ... on account of old age the eyes are inflamed, the ears grow deaf, teeth fall out, the hands shake and the legs grow weak.

However, he refers to the fact that these breakdowns may be due to impaired defence mechanisms.

... For, as someone so aptly remarked, the condition of old people is very similar to a small town poorly fortified, suffering from inadequate armament and deprived of nearly all its garrison; this town is beleaguered by a very strong foe who strives to capture it with various machines and

missiles, and there is a constant danger that the defenders might be forced to surrender, either because of lack of necessary material or because they cannot even approach equality with their enemies. . . . And what makes their misery even worse is that which is expressed in the old proverb, "Old age is an incurable disease" (*"Senectus insanabilis morbus existit"*).

The book contains many observations which are of great historical interest to the psychiatrist. Among the problems which are treated quite extensively are those concerned with the melancholia of the higher age group. The author is aware of the fact that as a whole their prognosis is more serious than that of depressions during other life periods. In this his statements coincide with those of recent textbooks of psychiatry.

... Therefore they begin to talk about the worries which violently upset the aged in the very depth of their heart (*pectus*). Those who impugn old age say that the discomforts which arise during other life periods usually give you some hope of future abatement through the mere factor of passing time; in the aged, who are deprived of this hope, such discomforts are much more serious. These illnesses are much accentuated by the fact that old people realize that strength of mind and soul is gradually fading. Nor have they any hope left of recovering their former condition after they have grown old. They rather realize that there is a general decline as time goes on. Hence they cannot help being much worried (*commoveri*).

He then proceeds to give a picture of senile decline which is accurate according to present day concepts, except for the fact that he describes it as if insight were present, which in most cases is actually not true.

Moreover, they see that there is not much left of that acumen of the mind which helped them in their youth, nor of the faculties which served the intellect, which some call judgment, imagination, power of reasoning and memory. They see them gradually blunted by senile deterioration and see that they can hardly fulfil their function. They remember that this time of life is considered useless for high administrative posts. This is borne out by the custom of the Spartans who, while they honoured old men beyond everyone else, yet did not think it expedient that they should be Senators in perpetuity, or that old men should forever stay in office; for they held that the strength of mind of the old was weakened (Aristotle, *Politica*, Book II, Chapter 7).

Moreover, when old men search themselves carefully and consider what they are, they soon realize that with increasing years they acquire many trends incompatible with virtue (Aristotle, *Rhetor.* II, 13, *Ethics*, VIII, 5); they become miserly and

hang on to things unduly, they are too pusillanimous, timid, unduly suspicious, and unduly incredulous. They take little pleasure in conversation with their friends, they rarely agree with others, they are averse to making friendships, and they have a tendency to give up hope.

What more can I say? As old men realize, poets commonly called this life period the "bad time of life" (Euripides, chorus in *Hercules furiosus* Alex. ab Alex. *dierum genial.*, III, 2, IV, 3). There is also that old proverb, "Throw people over sixty off the bridge." One is reminded of the customs of many peoples who use great harshness against the old. The man in the street has a habit of saying, "To be an old man is not to be at all." Thus, old people thinking these things over and feeling the threat of death hanging over them every day, cannot tear themselves away from the greatest mental agony and cannot help being continuously worried.

It is astounding that the author, when speaking of depressions, makes a distinction which we find only three hundred years later again in the literature, *i.e.*, the distinction between endogenous and exogenous mechanisms.

Others . . . wishing to alleviate worries and (mental) disturbances, investigate their origin more carefully. They find that some arise out of the strength of nature itself (*ex propriae naturae vi*) and of the physical constitution (*corporisque simul constitutione*), while others arise from various causes.

This consideration also comes into his discussion of the therapy. He is quite aware of the fact that occupational therapy, change of environment and certain other superficial psychotherapeutic methods bring symptomatic relief but do not affect these emotional disturbances at the root.

. . . . (certain writers) deal with sadness which frequently oppresses the mind of old people greatly, and they suggest remedies by which it is customarily alleviated. The following are considered as a sort of healthy antidote; such forms of relaxation which delight the senses, as, for instance, music, games, plays, conversations, dinner parties, pleasure drives, baths, parks, beautiful scenery, fountains³ and other recreations of that sort. Cato said, according to Cicero, that he enjoyed himself very much in isolated villas and found pleasure in working on the farm.

We agree that these things help a good deal in many cases, depending on the nature of the indi-

³ "*Fontium irrigationibus*,"—here he might actually be speaking about hydrotherapy.

vidual case, and that they usually bring comfort (Aristotle, *Ethics*, IX, 11, S. Thomas, 1.29.38 art. 1.2, *et seq.*). However, while the eyes, the ears and the bodily senses, all of which are of a peripheral nature, alleviate the suffering of old people, yet they do not reach the hidden cause of this sadness, so that when these remedies are discontinued, that intrinsic cause of sadness keeps gnawing at the mind. Thus, in these means, there is no sure hope of restoring the aged or of alleviating sadness. For, as Seneca says, "Whatever is good does not seek outside help, is self-sufficient and complete in itself." And Plutarch (*lib. tranquill. in princ.*) says: "A shoe does not free from gout, nor a precious ring from hangnail, nor a diadem from a headache, but the mind needs freedom from worry and a regular life." And Horace says (I, 11): "(The happiness) you seek is here; it is right on your doorstep if you take things with equanimity." Thus, we see that remedies which attack the illness from outside—locally, so to speak—are not much approved of by physicians unless the body has first been healed because they (those remedies) affect the hidden innermost cause of the illness very little; in fact, they rather increase its power, and spread it to different parts of the body.

The author is quite convinced that symptomatic therapy of depressions is not of much use, and substantiates this with a further example:

This is also made clear by the example of St. Augustine (*Confess.*, IX, 12): When he was afflicted with melancholy on account of his mother's death, he used the baths as a remedy because he felt it was suitable for overcoming sorrow but . . . he admits, however, that he came out of the baths as he had gone in, and this bitter sorrow was not washed out of his heart.

Like certain other writers of the humanistic period, he touches for the first time upon the problems as to how far moral categories are applicable to morbid phenomena. When discussing the tendency to outbursts of rage in certain conditions of old age or senility, he remarks:

Some say that those acts which are committed under the impulse of anger are to a great extent excusable because an act committed under this impulse is prompted by a sudden outburst which resembles an involuntary reaction.

Thus we see that the book contains here and there fragments which are of great historical interest to the modern physician, and like many other works of that time it indicates in the germ, so to speak, certain

trends which are characteristic of psychiatry a few centuries later.

The bulk, however, is a sort of paraphrase on similar works of antiquity, enlarging on ideas of writers such as Cicero, or modifying them. The gist of the book is, as indicated above, some sort of "defence" of old age. Wisdom, maturity and a cooling down of certain emotional currents give old age its

peculiar form of creativeness unobtainable at other life periods.

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THE CONSTITUTIONAL ANHEDONIC PERSONALITY

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It was William James who said, "Some are born with an eternal bottle of champagne to their credit," thus defining the hearty folk of the world. The opposite type of personality is he who is born with an eternal bottle of chloroform under his nose, thus passing through life in a state of stuporous desire and satisfaction. It is this type of person whom I here designate as the Constitutional Anhedonic Personality.

The term *constitutional* does not necessarily mean *hereditary*, although the converse that hereditary includes constitutional is true. As Raymond Pearl pointed out, constitution may be changed early or even late in the individual life history. Thus there is much to show that infection, such as encephalitis, wrong or deficient feeding, injury to the brain, and the pressure of social circumstance, may alter the pattern of responses to life in a permanent way, which is in essence the definition of altered constitution.

The term *anhedonic*, as used here, requires explanation. The Inanimate passively awaits experience and *reacts* to the forces of the environment; the *Animate* seeks experience and so becomes an actor instead of, or in addition to, a re-actor. At first the living creature is seemingly little more than a bundle of tropisms and chemical responses. Later its activities become elaborated into specific, hereditarily determined, and almost separate departments of seeking, usually called instincts. Still further along the ladder of evolution the development of animal life reaches the heights of conscious desire, hunger, appetite, drive, or what you will; and the reward for successful attainment of the goal desired becomes a pleasurable "enoughness" called satisfaction. In the quality and intensity of desiring, and likewise of satisfaction, as in all the variables of life, there is a range of intensity which starts almost at zero in the case of those anhedonic individuals, whom I shall later describe, who seem to pass through life almost without desire and without satisfaction, and reaches a maximum in those hearty and lustful person-

alties who seek vigorously and are deeply and easily satisfied.

In the case of the curious creature called *homo sapiens*—who might just as well have been called *homo sensualis*, *homo sexualis*, or homo what you please—desires and satisfactions are enormously modifiable and modified by the human specialty, the something collectively designated as social pressure, and specifically mores, customs, taboos, laws and social habits. By virtue of his clever hand and, more especially, through the medium of speech and its offshoot, writing, man has built up a superhuman structure which weighs heavily upon and powerfully directs, disturbs, magnifies and inhibits his desires and satisfactions. Towards desire and satisfaction he has evolved an *ambivalence* of dramatic and fateful import. We can conceive of no other animal who, somehow or other, has reached that state of mind in which he declares essential parts and activities of his body obscene, and who attempts to live up to the curious conclusion that desire and pleasure are vain and vicious, and satisfaction illusory. Powerful social groups have built an ascetic philosophy which goes far beyond mere avoidance of desire and satisfaction and has become a fierce denunciation *as sinful* of great drives charged with passion in the seeking of satiety. Some of the main religions of the world symbolize and stigmatize desire and satisfaction as "The Flesh," which they seek to mortify because they regard it as the principal enemy of religion and of the upward, celestial, spiritual evolution of the human being.

The ascetic, and thus the anhedonic philosophy, may have arisen as a proof that action breeds reaction, because man is not content with the natural expression of his desires and satisfactions. If he has developed an ascetic anhedonia, he has also conjured up its opposite: a spurred-up hedonism. He puts spice in his food, drinks inhibition-destroying liquors, uses clothes and scent for aphrodisiac purposes, has invented cooking, the bed, and mystery and glamour to en-

hance and spur on his natural appetites. Slogans are invented so that he makes super-human efforts in activities that multiply his powers enormously. And if he cannot reach satisfaction in this world, he builds up paradises and utopias where satisfaction will reign uninterruptedly.

Natural excitation and inhibition have thus become tremendously magnified, so that the individual human being lives in a maelstrom of the ambivalence created by conflicting forces, some of which seek to enhance his drives and mollify his satisfactions; and others, operating at the same time, and within him, seek to destroy desire and kill satisfactions.

In previous writings I have developed the theme of the clinical syndrome, which I have called anhedonia, and in these I have discussed the main desires and satisfactions of mankind. These I briefly consider at this point, although I realize that there may be some unitary striving and desire beneath and beyond, so to speak, the various manifestations of desire and satisfaction. To make departments of the living activities is to cabin, crib and confine that which may be a final unity. But with unity the psychiatrist cannot deal successfully. This he leaves for his near of kin intellectually, the philosopher.

1. There is the desire for, and satisfaction in, activity for to move is to live, just as the final immobility is death. This becomes evolved from the spontaneous, purposeless and yet pleasurable moving of the infant into the organized activities of sport, entertainment and competitive skill, on the one hand, and work, on the other. That from the beginning to the end of life there is a pleasure and a satisfaction in activity in and of itself is almost a truism. The game itself is a goal, however ardently the goal of victory and success may be sought.

2. Parallel with this there is a desire for rest and corresponding satisfaction. After exertion, or from the mere living during a day, fatigue, *which under normal circumstances is an appetite or desire for rest*, sets in. It makes the individual seek rest, and he gets satisfaction in the form of recuperation, and he says, "What a good rest I have had," just as he may gloat, "What a good dinner I have enjoyed." In sleep, which is the final

and most important phase of rest, both appetite and satisfaction can be plainly seen. The yawn and the drowsy feeling are the appetitive manifestations of sleep, and the sense of recuperation in the morning is its manifestation of satisfaction.

3. The most easily understood, perhaps the most typical, of the appetites and satisfactions is that connected with the seeking of food and drink and the satisfactions thereby obtained. In its simplest forms, this appetite is periodic, associated with a physiology that is, on the whole, fairly well understood. Body tissues are burned; hunger contractions and the secretion of digestive juices stir up the great kineticism of food-seeking. Desire seeks primitive satisfaction in mere eating. But this mere eating is modified, ceremonialized, hedged around with refinement, taste and technique, so that the ingestion of food becomes the social ceremony called dining, and appreciation becomes connoisseurship and gastronomics. This joy becomes one of the main avenues of satisfaction-seeking and, since it is immediately concerned with survival, it is the source of the principal industries of mankind, brings about the organization of loosely united, small bands of human beings into great nations and states, who wage war on one another in the name of ideals, but really because of the complicated desires and satisfactions of their gastrointestinal tracts.

Even in the case of eating, ambivalence plays its rôle. In the name of religion certain foods are even forbidden; the order of eating becomes a matter of right and wrong; to fast becomes a means of attaining heaven and the good graces of God, as well as a way of showing one's disapproval of one's oppressors and masters. *Refinement and manners, I believe, often work havoc with appetite and satisfaction.* Just as the refinement of wheat, rice and sugar produces in the name of esthetic whiteness a vitamin deficiency, so, too early and too intense a refining process removes the vitamins of heartiness and hedonism from the qualities of the individual. And the latest scientific theory becomes very potent in directing the appetite towards or away from this or that article of food. Eating to live, or living to eat become opposing codes of life.

4. It would take a book to describe desire

and satisfaction in relationship to sex. Here the individual has purposes separate from himself, so to speak, and involving that mysterious entity, the race. For reproduction is the primary purpose of sex and, in fact, sex is normally merely one of the means of reproduction. In the case of sexual desire and satisfaction we find the most marked and most extraordinary example of human ambivalence. On the one hand, there are powerful aphrodisiac forces spurring on the sexual life of man, so that he may be called *homo sexualis* to emphasize the fact that he is by far the most sexual of all the living creatures on the earth. The human sexual embrace, involving as it does a contact of the whole anterior surfaces of the body, with an intertwining of all the members and a joining of the face as well as the sexual structures themselves, makes the human sexual act far more intimate than that of any other animal. And man has invented ceremonials—the mystery of clothes, the incitements of perfume, song, music, wine; the potent stimulation of the privacy of the boudoir and bed—for his aphrodisiacs. To make the confusion complete, he has also declared the penis and vagina to be obscene parts of the body. Of himself and reproduction he has said that he is a third excretion: vile-ness unless sanctified. He has glorified continence and virginity, and men have even made themselves eunuchs for the sake of Heaven. The enormously potent an-aphrodisiac of the notion of sin has entered the cosmos of human sexuality, and the most exciting of the experiences of the human being has been badgered and bayed at, expanded and confined in most fantastic ways. The wonder is that anyone remains sexually healthy, and perhaps no one does.

5. This *homo sapiens* is also *homo gregariens* or *homo socialens*. In fact, his thinking, feeling and doing are so much under the thumb of his gregariousness as to be almost unknown or non-existent without the factors of the social life. The desire for human society has its correlation in the dread of loneliness or of being alone in any of the wide ranges of meaning which this dread term designates or hints at. I cannot take the time to trace in any way the evolution of gregariousness, but I wish simply to state, as will be seen later, that the appetite for

social relationship and the satisfaction obtained are enormously variable, so that there are those who never take joy in social life and those who would rather die than be alone.

The social structure has laid down most dogmatic and conflicting rules to regulate social desire and satisfaction: whom to like, whom to hate; how, what, and when to communicate and to whom; what to do and say in the presence of the vis-à-vis; who or what is superior and inferior; the nature of good taste and bad taste; the proper direction and intensities of egotism and altruism; how, when and with whom to compete and collaborate—all these directions of social desire and satisfaction are governed most powerfully and, alas, most confusedly by the voices of dead and living conflicting authorities. Both war and neurosis spring in part from fiercely opposing ideologies.

All of these desires and drives become, as every psychiatrist and, in fact, every physician knows, greatly diminished and even destroyed in the course of the neuroses, and especially of the depressive mental states. The appetite for, and the satisfaction of, food are extremely vulnerable, and anorexia of one degree or another fills clinics and spas to overflowing and builds up all kinds of health-seeking activities. Disturbed sleep, or dys-somnia, either in the direction of hyper-somnia or insomnia, presents one of the most serious problems of the neuropsychiatrist. The impairment of recuperation and, its therapeutic directive, the restoration of rest and sleep are central problems, I believe, in most of the neuroses and very likely in some of the psychoses as well.

The impairment of social desire and satisfaction are cardinal features in the depressive states and in schizophrenia; and even in the mildest neurosis the capacity to enjoy the company of others is injured. The reduction in activity ranges from that pathological tired feeling which kills all pleasure to the complete retreat from all activity and the loss of all satisfaction in work or play so frequently encountered in the conditions that we, as psychiatrists, have to deal with.

Anhedonia, or the anhedonic syndrome, as I have previously discussed it, referred to the impairment or disappearance of *previously normal desires and satisfactions*, and without known organic disease. Without de-

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sire and satisfaction life becomes a haunting burden; the sufferer feels like an automaton, isolated at once from his fellows and his past; and the present becomes unreal, since reality is the subjective valuation we give to experience and ourselves.

I now proceed to describe a personality type in whom, *from the very start of life*, there is manifested a lessened desire and an incapacity for satisfaction: the constitutional anhedonic personality. This personality type may be confused with the "shut-in" personality. This term depicts a result and gives no clue to its genesis, for a person may be shut-in (1) because he fears or hates his fellow-man, (2) because he fears going forth into the world, as in the severe anxiety state where the individual becomes immured in a prison of phobias. The constitutional anhedonic personality may be shut-in, but he has not retreated, so to speak; he does not seek, and so appears shut-in.

Thus to describe a typical case: A man of 30 has never had a hearty appetite for food. As a baby, he was a feeding problem. As a child, he was finicky and undernourished. As a man, he ate because it was time to eat, and because it was necessary to ingest food substances. He never knew what it was to lust for food and smack his lips over specially good things, as most human beings do. As a child, he was also inactive. He had to be spurred on to games, sports, athletics, in which he never was skilful, and it was with difficulty that he found an avenue of work. At 30, he had never known sexual relationship, never had been in love because, in fact, he had only casually and very sporadically any sexual desires. He has masturbated experimentally on a few occasions and, perhaps significantly, the nocturnal emission has been a very rare event in his life. He wonders about sexual passion and cannot understand that drive which leads men and women to live, die and kill for each other.

The presence of others has never been a source of comfort or pleasure. He has no craving for the society of his fellow-men. In fact, he has a deep unease in their presence, and to meet others is an ordeal manifested by visceral disturbance of a type which I have called the "social anxiety neurosis," a term to which Schilder gave psychoanalytic meaning and importance, and which

Trigant Burrow and his school have discussed from their own standpoint. In this man's case, there was at first no established feeling of inferiority. As he grew older and realized that somehow or other he lacked the desires and satisfactions of his fellow human beings, he felt that he was abnormal and thus inferior. This man is not anti-social. He does not hate his fellows and, in fact, he cannot hate. He simply does not desire, and feels no pleasure or satisfaction in social relationships and social mingling. He is not gregarious and he is not social. Restlessness and the feeling of lack of energy—these are constant phenomena in his life. Although he sleeps heavily, he has never felt fresh or vigorous in the morning and, in fact, as is the case with the acquired neuroses, he feels at his lowest in appetite and desire during the morning; and *sometimes* at night there is some appetite for food, a glimmering of sexual passion, and an incipient craving for social relationships.

If we encompass all of desire together as the appetite for life, this man has an all-embracing anorexia. In the severe depressions the desire to live becomes replaced by the desire to die. There is little of such intense psychic pain associated with this man's anhedonia, since like the visually blind, he has never known the colors of life.

Complete constitutional anhedonia is uncommon. Far more frequent is a focal absence of desire throughout life. Especially does this seem to be true of sexual desire and satisfaction. Both in the case of men and women there are those who never have any ardent sexual desire. The male in this situation is usually virginal or, if he has attempted sexual relationships, finds either that he is impotent or that he gets no satisfaction and, consequently, ceases to seek the sexual relationship. In other words, the constitutional male sexual anhedonic tends to be a celibate and thus rarely gets into situations where his lack of desire becomes important or disturbing to a mate. He may, sooner or later, become worried by his deviation from normal, and then he seeks to enhance desire in one way or another either by seeking out women or by masturbation, even by homosexuality. Hormones of whatever type, so far as my experience goes, are of no help to his sexual anhedonia.

The case is socially different so far as the female sexual anhedonic is concerned. Many women do not expect to have desire, and in some cultures it is even a point of superiority that the unmarried woman is chaste and virginal in feeling as well as in act. Her marriage, however, brings trouble. Sooner or later, the husband becomes openly or secretly alienated by her lack of ardor, her lack of response. She is stigmatized as the frigid woman. She becomes worried, the fear of abnormality becomes obsessive, and rightly or wrongly she fears she will lose her husband. Something unknown is definitely lacking in her constitution and make-up. She is not merely "over-inhibited." This is a cliché of explanation which does not apply to the majority of frigid women. Nor does it mean necessarily that the husband cannot "awaken" her. In a large percentage of cases she is unawakenable. Other phases of desire may be present, although in general there is impairment in all directions. The frigid woman may be social and take great pleasure in her work. But in most of the cases the lack of heartiness in sexual appetite is paralleled by a lack of heartiness in the other directions of drive.

A very interesting constitutional anhedonic type is one in which all the desires, except the one for working activity, are deficient. Such a person may indeed be a great scholar; in fact, some great philosophers, judging from their history, have been very definitely anhedonic. I have known men who have achieved eminence in scholarship, who have had no hearty appetite for food, have lacked sexual desire completely, have preferred to be solitary, but who had an insatiable energy in the acquisition of knowledge and in the attainment of scholarship in science, philosophy and literature generally. With nothing to distract them, these men really achieve. They are not torn between their desire for play and their ardor for work; and sex, which leads into complicated and time-consuming relationships, does not enter into their lives. Moreover, this is true of some of the people who succeed financially. They tend to be parsimonious since they seek nothing on which to spend money. Frugality is the warp and woof of their nature. They can work without vacation, rest or recreation. They easily accumulate money, and since

they have no other fundamental interest, they learn to know money and use it for its own multiplication very successfully. In other words, the complete addict to work, a disease which might be labelled workism, is often anhedonic in other directions. There are some very notable examples of this in the history of American finance, and one can easily pick out this type amongst the successful of one's acquaintance. While the subjective worth of such men's lives is not great, the social worth may be enormous since they are enabled to achieve goals of importance and communal worth. By a paradox which life seems to delight in, the non-social create social value.

Is this hedonistic deficiency due to over-inhibition simulating a lack of excitation? In one case which I have followed closely, the man was able to have sexual desire and sexual satisfaction if he got himself nearly-drunk. This would seem to point to an over-inhibition, which prevented this individual from striking out boldly in the quest of the objects of desire and the sources of satisfaction. But while this is the case in some individuals, it is not true of the majority, since alcohol has no releasing effect upon them. Furthermore, they are not helped in the direction of desire and craving by the use of hormones, nor, so far as I can see, by the addition of any gland which may be hypothetically lacking. In short, up to the present time the genesis of constitutional anhedonia is a complete mystery to me on any organic physiologic basis.

Is it due to the badgering which society gives by its "yea" and "nay" in every direction? Does it relate to some childhood experiences which have killed desire or brought about a timidity in the seeking of experience? These individuals are in general timid and are prone to fear. Can we ascribe the lack of drive to an early conditioning process which has killed desire and satisfaction? When one looks at the life of man objectively, when one considers the injunctions and prohibitions, the delays in satisfaction and the diversion of desire, the constant barrage aimed at desire and satisfaction by the do's and don't's, ought's and oughtnot's of a social structure which teems with contradiction and hypocrisy, it seems quite wonderful that any healthy hedonism survives.

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Is constitutional anhedonia an early acquired neurosis, or perhaps a chronic but mild depression? There is some hint of this latter as a possibility in an occasional short manic-like exuberance, and perhaps as pertinently by the significant, "feel more lively at night" statement which I have not infrequently heard.

For a working hypothesis, I suggest that these cases are early established chronic mild depressive states. At any rate, these unfortunates go through life without ardor or joy, desiring one thing mainly—to desire as others do and to share their satisfactions.

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SHOCK THERAPY IN PSYCHOSES COMPLICATED BY PREGNANCY

REPORT OF TWO CASES

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Occasionally one hears of shock therapy having been administered to pregnant patients, but very few cases, as such, are reported in the literature. A recent article (2) telling of two patients treated with electroshock has prompted the writer to report on two others given shock therapy. As more results appear we may be better able to evaluate the advisability of such treatment for pregnant psychotic patients.

CASE REPORTS

CASE 1.—N. R., 32 years old, was admitted September 28, 1944, with a history of personality changes dating back about 6 years. After a rather average school and work record she married when 19, and had four children. Her deliveries were always difficult, two of the children sustaining brachial injuries, but all the infants were viable.

Following the birth of a child in 1938 she became agitated and fearful for her own well-being. She neglected her household duties because she could not make decisions, and felt she had to report every routine occurrence to her husband. As time passed she believed men would attack her sexually, and consequently became more apprehensive. She sought psychiatric help several times, and finally requested hospitalization.

On admission physical and laboratory examinations were negative. She had ideas of unreality, and reported auditory hallucinations. Although depressed and tearful, she cooperated at all times and asked for treatment to help her get well.

Six weeks after admission she felt that she was pregnant because she had not menstruated since September 9, and had some morning nausea. A pelvic examination on admission had been negative, but on November 6, 1944, early signs of pregnancy were present.

Her husband insisted on some form of shock therapy despite the added danger that seemed inherent in the treatment of a pregnant woman. Several factors, however, seemed to indicate a favorable prognosis, thus making the risk worthwhile. She did have a good affective reaction to her symptoms, and had been able to manage well for some years. Further, she already had several children, and believed treatment could help her get well enough to care for them. The family situation was difficult, and it seemed advisable to make an effort to shorten her hospitalization.

Insulin therapy offered the best chances for a remission, and was accordingly started on November 10, 1944. By December 10, she had received

25 treatments, and had had 14 moderately deep comas, the dose of insulin ranging from 20 to 110 units. The hypoglycemic periods lasted between 4 and 5 hours, and comas from 30 to 60 minutes. She manifested no unusual effects, except that as time passed she suffered increasingly severe nausea and retching in the morning. However, the pregnancy seemed to develop normally, and treatment was not pressed further because she showed signs of mental improvement. At the termination of therapy the pregnancy was in the earliest part of the second trimester.

The patient continued to improve so that she could be released on February 18, 1945. At this time she was free of delusions, and seemed to realize that she had been mentally sick. Her affect was good, and contact with reality adequate.

She managed her household well, and one month before her due-date finally visited a physician who had delivered some of her other children. He found her to weigh 212 pounds, having gained 37 pounds during the pregnancy, but could hear fetal heart tones. On June 12, 1944, the membranes ruptured spontaneously, and on examination soon afterward the fetal heart tones were inaudible. She went into labor June 17, and delivered a macerated fetus weighing 17 pounds. The post-partum period was uneventful.

CASE 2.—J. A., was originally admitted to Central Islip State Hospital June 15, 1942, at the age of 31. Her family history was negative and she had an essentially average background. When 19, she married and within a space of 9 years had 2 normal deliveries and two abortions. She apparently was normal until May 1942, when she developed persecutory delusions and experienced auditory hallucinations. Gradually she became mute and refused to eat any food, thus making her hospitalization necessary. Physical examination and laboratory tests were negative. On July 2, insulin shock therapy was started, and eventually combined with metrazol on the 10th, 13th, 15th and 17th days. In all she had 19 treatments, including 7 comas, 2 petit mal and 2 grand mal seizures. Inasmuch as she showed no improvement electroshock therapy was started. From September 7 to 25 she received 9 treatments, ranging from 110 to 120 volts for .1 second, and had 1 petit mal and 8 grand mal convulsions. She improved almost immediately and was released from the hospital on October 11, 1942, in a much improved condition. She adjusted well at home and was discharged from the hospital one year later.

The patient remained free of symptoms until the early part of June, 1944, when she again developed persecutory delusions and became mute and catatonic. Hospitalization occurred on June 12, 1944.

Physical examination and laboratory tests were negative, and electroshock therapy was again administered. From July 12 to November 3, she had 24 treatments ranging from 100 volts for .1 second to 130 volts for .2 second, and had an equal number of grand mal convulsions. During this interval she had several short-lived periods of marked improvement, finally leading to what appeared to be a stable remission. She was released from the hospital November 5 in an improved condition, but showed evidence of relapse in a few days. On November 17 she was returned to the hospital, apparently already pregnant. At this time she was extremely perplexed, confused, mute and resistive. At the end of a month her condition was the same.

On December 20 electroshock therapy was undertaken again at the insistence of her husband. After 6 treatments she became markedly improved. This time the dose ranged from 100 volts for .1 second to 100 volts for .2 second, and she experienced 6 grand mal seizures. In the face of her tendency to relapse, it was decided to switch her immediately to insulin treatment in an effort to maintain a more stable remission. This was done on January 17, 1945. However, by the time she received 18 treatments, the dose ranging from 20 to 100 units, and had 8 comas, all her symptoms returned. During the treatment she retched and vomited a great deal, and lost weight. The treatment was, therefore, terminated February 15, 1945. On February 23, electroshock therapy was started again, and up to April 16 she was given an additional 18 treatments which produced an equal number of grand mal convulsions. The symptoms disappeared and she made a sufficiently good adjustment in the hospital to be released once more on April 22, 1945. Unfortunately her symptoms returned, and she had to be hospitalized May 13, 1945.

During the entire series of electric and insulin treatments her pregnancy made normal progress. Treatment had been instituted when she was pregnant about 1 month, and continued until she was pregnant fully 5 months. In this interval she had 24 electro-convulsive seizures, and 18 insulin injections which resulted in 8 comas. On May 15 the uterus could be palpated at the level of the umbilicus, and fetal movements were present.

Her mental condition became worse, and she resisted all efforts at examination. However, her pregnancy seemed to develop normally. On August 9, 1945, she suddenly went into labor and delivered a macerated fetus that weighed 7 pounds 10 ounces. It seemed to have been dead a short time before birth, but the exact length of time could not be estimated.

DISCUSSION

The psychiatrist must sometimes decide how to manage the treatment of a patient who is both psychotic and pregnant. At best the decision is difficult, but it is rendered more so by the lack of literature to guide

one, and general inexperience with management which may include shock therapy. There are several factors to be taken into account when considering such a situation. These include not only the mental and physical condition of the patient, but also things of a social and religious nature.

It is well known that shock therapy is most effective in patients who have been ill a short time, generally less than a year. This is particularly true in cases of schizophrenia. When one is faced with a pregnant psychotic patient who has been ill several months, a delay in treatment might make the difference between ultimate success and failure. This would be especially hazardous for a patient whose psychosis is "caused" by, or aggravated by the very fact that she is pregnant, but whose illness may be terminated by active therapy. While in such case a therapeutic abortion might be indicated, relatives may withhold permission for it because of social and religious tenets, but yet be willing to allow the administration of shock treatment.

At times pregnant patients are so very disturbed that physical exhaustion, with dangerous consequences for both the mother and fetus, is feared. Active intervention seems indicated and one may seriously consider a form of shock therapy, especially if the outcome seems promising. Also, when the patient's family situation is such that quick action is desirable for the welfare of her neglected children and the infant yet to be born, it may be proper to assume the added risk.

Naturally, the very nature and effect of shock therapy itself must also be considered. Primarily, one would anticipate injury to the fetus because of the violent muscular contractions produced by the forms of convulsive therapy (electric and metrazol), or some interference in fetal development due to the hypoglycemia of insulin treatment. These factors would dictate extreme caution in any case, and must be weighed carefully against the conditions which favor the treatment.

In the American literature thus far, there are reports on only 3 pregnant patients treated with shock therapy. Goldstein, Weinberg and Sankstone(1) produced 13 grand mal convulsions with metrazol, and followed

with 13 injections of insulin ranging from 20 to 50 units without the production of any comas. The treatment was apparently administered between the 5th and 7th months of pregnancy, and no ill effects resulted, a normal full term baby being delivered. Polatin and Hoch(2) treated two pregnant patients with electro-convulsive therapy. Both women eventually delivered full term normal infants.

The cases reported here had short courses of insulin coma-treatment, and one of them also had electroshock treatment. Both of them carried approximately to term, and delivered dead babies. Naturally, one can draw no definite conclusions from the few cases so far treated, but it is possible that the insulin-coma treatment, rather than the electric, had something to do with the pre-natal deaths. Of course, the outcome in both cases may be coincidental; however, we may speculate that the hypoglycemia caused some

maldevelopment in the fetus which allowed it to live into the final month of gestation, but no further.

SUMMARY

Two pregnant women were given shock therapy. One received insulin-coma treatment during the second and third months of pregnancy. The other received both insulin-coma and electroshock treatment between the first and fifth months. Both patients went into labor in the last month of gestation and delivered dead babies.

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COMBINED SHOCK AND CORPUS LUTEUM HORMONE THERAPY¹

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It has been repeatedly attempted to influence the course of a psychosis by varied endocrine medications(11), particularly before the introduction of the shock therapies. In a previous paper(3) the combination in insulin shock therapy with endocrine medication (progesterone) was reported. This treatment combination was suggested by the clinical course of the psychosis of the reported case. The psychotic symptoms became manifest following the first pregnancy of this 21-year-old woman. Insulin shock treatment improved the patient's condition considerably without stabilizing it. She continued to show a marked reactivation of her psychosis during the post-ovulative phase of her menstrual cycle. Additional administration of corpus luteum hormone led to social recovery. Following this observation, a combination of shock and progesterone treatment was introduced in patients who demonstrated a reactivation or exacerbation of their psychosis in regular premenstrual intervals. Previously, Frank(4) and Israel(12) made a hormonal imbalance responsible for the appearance of non-psychotic premenstrual tension and the administration of progesterone was suggested.

In 12 patients shock therapy was followed by progesterone therapy since shock treatment alone did not produce either complete recovery or prevent premenstrual reactivation of the psychosis. Nine of the treated patients were diagnosed as schizophrenics of different types, 1 as schizo-affective psychosis, and 2 as manic episodes of the manic-depressive group. In 3 patients this treatment combination was preceded by insulin shock therapy—in 3 others by electric shock treatments; in 5 more patients electric shocks were combined with insulin shock therapy of varying level (mostly of sub-shock level); 1 patient had received a preceding course of eight metrazol convulsions.

Two mgm. progesterone (lutocilin, Ciba) was administered intramuscularly twice monthly, mostly on the 12th and 14th days following the first day of the preceding menstrual cycle. Occasionally it seems advisable to increase the dosage to 5 mgm. each; a third dosage is given on the 16th day, if indicated. In patients who develop a psychosis following childbirth 2 to 5 mgm. progesterone i-m. for three dosages are given routinely in addition to other forms of treatment. This medication is continued for 10-12 months. When the menstruation is missing, as is frequently the case, the next series of progesterone is started four weeks after the first of the preceding injections. In most cases the menstruation became regular after one or two series of corpus luteum substance. If the dosage is too large or given too early the menstrual flow may be altered. According to Gillman(7) 10 to 15 mgm. do not produce any undue side effect upon the menstrual cycle; 20 mgm. lengthens the cycle or produces premature bleeding, and 30 mgm. causes premature bleeding in all cases. In most patients the hormonal treatment was started from two to five months after the completion of shock treatment in order to exclude a possible late improvement due to shock treatment.

CASE HISTORIES

CASE I.—A 29-year-old white woman became psychotic two weeks after the birth of her second child, developing marked ideas of reference and of persecution; she was hallucinated. After seventy deep insulin shocks, two of which were of protracted type, her psychotic symptoms greatly improved. Her emotional response had become more adequate and the patient appeared more interested in her environment; however, she was still somewhat tense and showed a great deal of indecision. Because of her lack of insight she remained resentful and suspicious of her hospitalization. She had little contact with other patients. This condition became more pronounced about 10 days prior to her menstruation: her suspicion increased, she became more seclusive, had difficulties in concentration, there were ideas of reference present. This condition improved promptly with the first day of menstruation. Since the

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periods of pre-menstrual exacerbations returned for four months following the termination of insulin shock treatment she was started on progesterone and was given 1 mgm. i-m. on the 12th and 14th days of the menstrual cycle. During the next pre-menstrual period her symptoms appeared only slightly improved. Therefore, the following month the doses were increased to 2 mgm. of progesterone each and maintained for another 10 months. The usual pre-menstrual reactivation of her psychosis did not take place; her interest in her environment was stimulated and no difficulty in concentration was noticed. She showed more self-confidence; her emotional adjustment to the home situation was thoroughly adequate; she felt at ease in all of her social contacts. It might be of interest to note that the patient showed a wide-spread urticaria pre-menstrually before the progesterone treatment was started. This disappeared as the mental im-

pregnancies were essentially uneventful except for temporary increase in blood pressure. Two weeks following the last pregnancy she showed an episode of tension and resentfulness toward her husband lasting three to four weeks.

Menstrual History.—Menarche at 13; menstruation regular, 5 days duration; dysmenorrhea and pre-menstrual tension lasting 3 to 4 days. Two weeks prior to the outbreak of the psychosis the patient's husband, a major, left for overseas. Ten days later she and her children were threatened by a delivery man with an ice pick. The patient appeared frightened when he returned to her house the same night. She sent her dog after him and shot her gun once. The man ran away. Following that incident she grew more and more excited. Reassurance by her family and the arrest of the man did not help her. Three days later she became acutely disturbed and talked incessantly show-

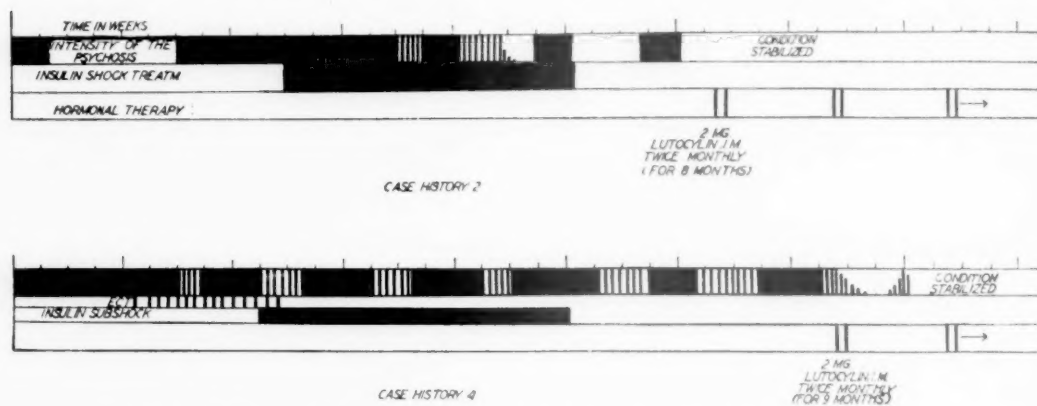


CHART I.—Influence of the combined shock and progesterone therapy upon the course of the psychosis.

provement progressed. She gained complete insight during the next six months. At present, three years after the termination of the insulin shock therapy, she has made a completely satisfactory adjustment and is free of any hallucinations or delusions. She is at home taking care of her two children and of her household. Her work is entirely satisfactory.

CASE 2.—This case was reported in detail in a preliminary report(3). Since that report the patient became pregnant again. In an attempt to avoid another psychotic episode she was given 2 mgm. of corpus luteum hormone (lutocyclin, Ciba) i-m. twice weekly beginning the fifth month of pregnancy; this was increased to 5 mgm. during the last two weeks prior to and after delivery. Following this she was given 2 mgm. twice weekly for another three months. The patient has been free of any psychotic symptoms.

CASE 6.—A 33-year-old white woman; family history was essentially negative; the pre-psychotic personality was described as cheerful and outgoing type. She was actively interested in social contacts, was popular with her own age group. At the age of 26 she married; she has two children. Both

ing flight of ideas. She misidentified people of her environment, one of her physicians being Jesus; she exhibited auditory hallucinations and ideas of reference, thinking people were talking about her and accusing her of immoral intentions; marked mannerisms were present. Insulin sub-shock treatments were alternated with electric shock therapy. Following that treatment combination the patient became quieter; her hallucinations and delusions decreased. She was able to establish better rapport with the workers. Menstruation was irregular, three out of five menstrual periods were missed. A marked reactivation of her symptoms was noticeable in four to four and one-half weeks' intervals regardless of actual menstruation. On such occasions her condition resembled greatly that prior to her treatment. Since her symptoms persisted after 35 electric shocks and an equal number of insulin sub-shocks progesterone therapy was instituted. She was given 2 mgm. of lutocyclin, Ciba, i-m. on the 12th and 14th days following the last calculated menstrual date. The next period of pre-menstrual tension did not return. Since that time the patient has made a completely satisfactory adjustment without further fluctuations. During

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the last six months she has been at home taking care of her children and of her household. Since the beginning of the progesterone therapy the menstruation has been regular.

CASE 7.—42-year-old white school teacher; family history, a brother has manic-depressive episodes. Pre-psychotic personality: patient had always been somewhat tense and variable in her emotional adjustment. Her psychosis began with a slowly

This improvement continued for two weeks after which her condition became worse again. Electric shock treatments were resumed and the patient received altogether 36 convulsions over a period of six months. After each of the series her condition improved only to relapse after two to three weeks following the termination of the last course of electric shock treatments. She showed marked reactivation ten days prior to her menstruation. Three months later the patient was started on

CHART II

PROGRESS OF 12 PATIENTS FOLLOWING COMBINED SHOCK-HORMONE THERAPY

Case No.	Diagnosis	Type of shock treatment	Condition following shock therapy	Time between shock and hormone therapy	Hormone dosage
1	Paranoid schiz. (Post-partum)	70 insulin shocks	Mild paran. condit.; pre-menstr. exacerbat.	4 months	1 mgm.; later 2 mgm. twice mo.
2	Catat. excite. (Post-partum)	38 insulin	Pre-menstr. excitement	6 weeks	2 mgm. twice mo.
3	Catat. schiz.	12 EST	Improvement; pre-menstr. exacerbat.	0	2 mgm. twice mo.
4	Manic episode	15 EST	Unimproved	2 months	2 mgm. twice mo.
5	Catat. schizo.	Ins. sub-shock	Improved; marked pre-menstr. exacerb.	1 month	2 mgm. twice mo.
6	Schizoaffective psychosis	13 EST	SL improvement; pre-menstr. exacerb.	4 months	2 mgm. twice mo.
7	Manic episode	34 EST	SL improvement; pre-menstr. exacerb.	3 months	2 mgm. twice mo.
8	Mixed schiz.	36 EST	Improved; pre-menstr. exacerb.	4 months	2 mgm. thrice mo.
9	Mixed schiz.	Insul. sub-shock	Improved; pre-menstr. exacerb.	2 years	2 mgm. twice mo.
10	Paran. schiz.	8 metrazol	Improved; pre-menstr. exacerb.	3 months	2 mgm. twice mo.
11	Paran. schizo. (Post-partum)	26 insulin	Improved; pre-menstr. reactivat.	2 months	5 mgm. twice mo.
12	Paran. schizo. (Post-partum)	18 insulin 20 EST 8 EST Ins. sub-shock	Improved; pre-menstr. exacerb.	0	5 mgm. twice mo.

CHART II—CONTINUED

Case No.	Manifestations of first sympt. of improvement following begin. of hormonal treatment	Condit. following hormonal therapy	Length of hormonal treatm.	Duration of illness till shock treatm.	Present condit.
1	2nd month	Social recovery	12 months	6 months	Resumed previous duties; 3 years since treatment
2	1st month	Social recovery	8 months	2 1/2 months	Resumed previous duties; 4 years since treatment
3	1st month	Social recovery	5 months	6 years	Relapsed after a year
4	1st month	Full recovery	9 months	2 months	1 1/2 years since treatment
5	1st month	Social recovery	8 months	7 months	2 years since treatment
6	1st month	Social recovery	4 months	5 weeks	6 months since treatment
7	1st month	Continued pre-menstrual tension	6 months	1 1/2 years	6 months since treatment
8	1st month	Social recovery	1 year	4 years	1 year since treatment
9	1st month	Social recovery	4 months	6 years	Relapsed after 20 months
10	1st month	Social recovery	10 months	3 months	Relapsed after 1 year lasting a month
11	1st month	Social recovery	2 months still under treat. at present	2 months	
12	1st month	Improving	2 months still under treat. at present	1 month	

increasing tendency to overactivity, reaching its peak in a sudden excitement and marked irritability two months afterwards. She became very restless, had difficulty in sleeping, exhibited flight of ideas, joking and laughing a great deal. She was very affectionate to several male workers. At the time of her excitement marked vasodilatation was present. The patient was given a course of twelve electric shock treatments, following which she became quieter, was less irritable but continued to show moderate over-activity and press of speech.

2 mgm. progesterone i-m. on the 12th and 14th days of her menstrual cycle. The next pre-menstrual excitement was definitely less evident, however still present. Therefore the next series of progesterone was increased to three injections of 2 mgm. lutocylin each. This led to a further decrease of the psychomotor activity and of her irritability. Her vasomotor change was less noticeable. Since some of her symptoms remained, a further increase to 5 mgm. corpus luteum hormone three times monthly was considered. For

administrative reasons the patient was discharged before this change in therapy was carried out. The patient returned home and was able to carry on with her housework, but showed periods of increased irritability and tension with a tendency to over-activity. This was accompanied by marked vasomotor change.

In all the reported cases shock treatment alone led to an incomplete improvement. All patients of the schizophrenic group were able to adjust themselves on a higher level. Their psychotic symptoms diminished but did not disappear completely (with the exception of case 2). However, they showed a definite reactivation of their former psychotic symptoms during the post-ovulative phase of their menstrual cycle even if the "pre-menstrual" exacerbation took place without actual menstrual flow. The psychotic exacerbation ended abruptly after five to ten days duration.

In all but one case there was a marked improvement or a complete lack of premenstrual reactivation following the first series of progesterone. In the only other case the patient had received 1 mgm. lutocilin, Ciba, instead of the usual injections of 2 mgm. During the next cycle the dosage was increased, after which the previous exacerbation of symptoms did not take place.

One of the 2 patients diagnosed as manic-depressive psychosis, manic phase, did not respond to previous electric shock or insulin sub-shock treatments. Her over-activity and flight of ideas became decidedly more marked during the post-ovulative period. The increased activity and ideation did not increase as previously following the first course of progesterone administration. From then on her behavior and adjustment became thoroughly adequate following the first menstrual period and did not show any further fluctuation. The administration of corpus luteum hormone was continued for nine months in that case.

The other manic patient showed defective improvement and later a complete return of her psychotic symptoms with marked vasomotor instability, as flushed face and increased perspiration, 10 days prior to her menstruation. The administration of 2 mgm. progesterone twice monthly reduced these symptoms but did not completely prevent them. An additional injection of the same amount produced further decrease of the psychomotor overactivity, but not complete

recovery. All other patients showed a social recovery following the combined shock and progesterone therapy. One patient (case 2) went through a second pregnancy without return of symptoms under the protection of preventive dosages of corpus luteum hormone.

Three patients relapsed eight to ten months following the termination of treatment. Two were schizophrenic patients of six years duration. In one of them it was considered that treatment was discontinued prematurely (four months instead of the usual minimum of 10 months). Another patient, a young college girl, went back to school for six months. She was unable to meet the social competition and suffered a relapse of her paranoid ideas. Her condition responded readily to re-hospitalization and following two weeks of insulin sub-shock therapy with continued progesterone injections she made a full social recovery.

DISCUSSION

Many investigators(5, 6, 14) consider a dysfunction of the autonomic, particularly of the sympathetic nervous system, as one of the psychosomatic factors in the etiology of schizophrenia. The close inter-relation of the sympathetic centers of the hypothalamus and the hypophysis with the endocrine system is rather well established. Grinker(9) assumes a direct interaction between the hypothalamus and the pituitary gland, and an indirect one between the former and the other glands of internal secretion. A. A. Hellbaum(10) attributed the increased incidence of psychosis in older women to a decrease of luteinizing hormones of the hypophysis. In a previous paper it was pointed out that the progesterone production might be decreased or deficient in cases of premenstrual exacerbation of a psychosis. This would lead to relatively excessive or unantagonized estrogenic substances contributing to irregularities of the autonomic system. Benedek and Rubenstein(1, 2) correlated the reduced progesterone level to a "regression of the instinctual tendencies" from the "genital level to a pregenital level. . . . this relatively increasing oestron production activates the psychological conflicts and thus the neurotic conflicts are intensified." This

opinion concurs also with the findings of a number of other writers(4, 12). The appearance of signs of toxemia during the pregnancy in two of the reported patients (case histories 2, 6) might possibly be explained by a lack of progesterone(15, 16) resulting in an endocrine imbalance.

Disturbances in the estrogen-progesterone balance as an etiological factor is borne out by the time of onset of the psychosis and by the periods of the reactivations of the psychoses. Therefore, in such cases we can expect the outbreak of the psychosis at the time of the placental involution ("post-puerperal"), and before or at the time of menstruation, since the "steroid metabolism" of both is similar(16). Sufficient administration of progesterone should restore the proper balance of the estrogen-progesterone ratio. In the 12 patients the intramuscular administration of corpus luteum actually produced a prompt relief of symptoms, when combined with previous shock therapy.

CONCLUSION

In a series of 12 selected cases it has been found that combined shock and corpus luteum therapy is of definite benefit in the alleviation of psychotic symptoms, especially if connected with "post-puerperal" and premenstrual activations or exacerbations.

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OCCUPATIONAL HAZARDS AND PSYCHOSES OF PSYCHIATRISTS

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Mental sickness, like physical sickness, is a fate which for the major part cannot be avoided or prevented. No class or profession is immune. The psychiatrist, although he may know the essentials of abnormal behavior, is still exposed to the same external and internal causes as the rest of the population.

The occupation with mental diseases is certainly not the result of a selective factor. The overwhelming majority of psychiatrists practicing in their field, might have landed in obstetrics just as well. There is nothing to indicate that psychiatrists are prone to develop mental diseases.

In this paper the term "psychiatrists" is used in a broad sense, including the physician who works in a mental hospital. There are many physicians employed in mental hospitals who devote themselves almost exclusively to somatic medicine. It must be emphasized in advance that the cases reported in this paper are exceptions to the rule. Such exceptions have to be expected. As a rule, the physicians of mental hospitals are well-balanced and well-controlled men and women whose biographies do not demonstrate any abnormality. For obvious reasons, personal data will be omitted. This paper does not refer to a particular person, state, country or period.

The institution psychiatrist does his work in a special environment, one of the features which might contribute to a psychosis is that of *danger*. Psychiatrists are exposed to danger because they deal with an unpredictable clientele. The hazard is of course not unknown in outside practice. In the early twenties the otologist Alexander was assassinated by a former patient of the mental hospital in Vienna, for alleged failure of an operation and subsequent facial deformity. In 1943 Dr. Kleinfelder, a prominent surgeon in St. Louis, Missouri, was killed by a former patient of his for a similar reason. In this group could be mentioned the case of a general practitioner who, while ill at home, attacked and threatened to kill his attending physician.

This personal risk is multiplied many times for the psychiatrist. For this reason some insurance companies charge higher premiums for accident and life insurance on employees of mental hospitals.

The Centennial Anniversary Issue, 1944, of the *AMERICAN JOURNAL OF PSYCHIATRY* contains the biography of Dr. John P. Gray, who was editor from 1854 to 1886. He was a legal adviser of Abraham Lincoln and later aided the prosecution at the trial of Guiteau, the assassin of President Garfield, 1881. On the evening of his return from Washington, Dr. Gray was seated in his office when suddenly an attendant walked in and aimed a shot at him.

In 1884, five doctors of the Chicago State Hospital were attacked by hospital employees for political reasons. Dr. Clevenger, the pathologist, sat with his wife and daughter at home when suddenly a bullet came crashing through his room, barely missed the occupants and lodged in a volume of Gegenbauer's *Anatomy*. Dr. Charles Koller, assistant physician, was threatened to be shot by the warden. Dr. James Kiernan, medical superintendent, was knocked down by an attendant, struck by the engineer and choked by the night watch-man, because he attempted to reform the institution. Dr. Della Howe was knocked to the ground by an employee. Dr. Cronin was stabbed in the back and thrown into the sewer.

In 1886 the famous neurologist Gudden was pushed into a nearby lake by his patient, the insane King of Bavaria. The doctor and the king drowned. At the time of the first world war, a doctor of a mental hospital in Alsace was killed by a patient. Twenty years ago a woman psychologist, Dr. Hug-Helmuth, was shot by her foster son. He felt betrayed because she had published a psychological analysis of his childhood. Ten years ago a paranoiac general practitioner, Dr. Eichhoff, killed the psychiatric expert of the county court who had come to his home for an interview. Originally they were the best of friends. Just before the outbreak of the war, Dr. Prohaska, psychiatrist of the

University of Brno-Bruenn, Moravia, was killed by a discharged patient of the clinic. About the same time a doctor of the mental hospital in Belgrade, Serbia, was hit with a shoe by a patient and died on the spot. In February, 1944, a psychiatrist in Washington, D. C., was killed by a jealous husband. In this case, however, the tragic death was not linked with the occupation, but entirely with his private life. The killer was acquitted. On February 10, 1945, a superintendent of a New York state hospital, and his assistant, were stabbed by a handyman of the institution. The attack occurred after an argument over a claim by the employee for workman's compensation for an injury. After wounding the two doctors, the handyman slashed his throat with a pocket knife. Similar is the case of an elderly doctor of an institution who during an uproar in 1938 was seriously injured by a revolutionary mob, although the doctor was never engaged in politics. On the same day and in the same country, two senior physicians of a mental hospital were arrested by three revolutionary junior physicians and kept under lock for three days.

Tragic is the death of the four-year-old daughter of a staff doctor. A patient lured her behind a bush, misused her, and slaughtered her in a brutal way. A supervisor was kicked in the abdomen by a patient; he died on the spot. The autopsy revealed rupture of the abdominal aorta.

The entire psychiatric profession was shocked by the news that on February 9, 1945, the Norwegian psychiatrist, Dr. Haakon Seathre, was executed as a hostage in Oslo, Norway.

Numerous are instances in which homicidal attempts were frustrated at the last moment. A paranoiac found a piece of iron which a mason had dropped, sharpened it on a stone into a sharp blade which was found by mere chance. The patient admitted that he wanted to stab a doctor who had two children. A discharged schizophrenic returned to the hospital with a long, sharp butcher knife with which he wanted to stab a woman doctor. A deaf mute with a criminal past was given permission to sit on the lawn, after two years of excellent behavior. Just after he had left the ward, a note was found among his belongings in

which he expressed a desire to kill the managing officer. The patient was caught in time. Every psychiatrist has similar experiences.

These examples demonstrate the danger in which psychiatrists live. This danger is ever present. It follows the psychiatrist whether he works in his office, in the hospital, at court, or whether he stays in his home. No case is known to the writer in which a psychiatrist reacted with a true paranoiac system. Neurotic fear reactions, however, are known. One doctor carried a loaded gun wherever he went, and a prominent psychiatrist actually carried a gun with him to work. He was not afraid of being attacked by patients, but feared attack by employees. His fear was justified, as a triple murder over politics occurred in his institution at about the same time.

The individual resistance to personal losses varies from person to person. Three psychiatrists committed suicide after catastrophic experiences while others who were hit similarly kept their emotional balance. For others, catastrophes even strengthen the stabilizing factors. A professor of psychiatry who had been a rather overactive and emotional type, assumed a passionless, stoic attitude after a personal disaster.

In the field of organic psychoses, the author is informed of two psychiatrists who shortly before their deaths showed mental symptoms. No case among psychiatrists has come to light of general paresis, a disease which occasionally is observed in non-psychiatric physicians. In 1944, two neurobacteriologists reported (A.M.A.) their accidental infection with the Venezuela type of equine encephalomyelitis. Fortunately their symptoms were mild.

It seems that those physicians who devote themselves exclusively to psychiatry are rather spared from psychogenic mental sickness. On the other hand, biographies of physicians who do occasional psychiatric work will demonstrate behavior disorders. Physicians who never having dealt with psychiatry, become insane or drug addicts in numerous instances. A doctor who had taken a postgraduate course in psychiatry, and worked as an expert at insanity hearings, misused his position to declare insane the

husband of his girl friend. His luck did not last very long. He got in trouble with the law, was committed to a mental hospital and was found to be a typical schizophrenic. A general practitioner who occasionally side-stepped into psychiatry, had been a patient in a mental hospital at the age of twenty, classified as schizophrenia. He seemed to have recovered and was leading a normal life. A doctor at the age of thirty committed a criminal act, which fortunately remained unknown to the authorities. He was a psychiatric writer in later years and, overcompensating, became a strong advocate of this one law principle which he had violated in former years.

A direct criminal act by a psychiatrist is rare. History records one case which became even famous. In 1902 a Polish revolutionary, Josef Pilsudski, was arrested by the Russian police and locked up in the citadel of Warsaw, from which an escape was impossible. The prison psychiatrist happened to be a Polish patriot, his name being Jan Mazurkiewicz. He instructed Pilsudski how to act as if he were insane, whereupon Pilsudski was transferred to a place in Petersburg from which he succeeded in escaping.

Different is the attitude of psychiatrists if mental illness occurs within their own families. A prominent psychiatrist discovered that his sister had developed catatonia. He studied her case and took care of her in brotherly love. His attitude was determined by his strong ethical principles. In other cases, psychiatrists conceal mental abnormalities of members of their families. Several psychiatrists strongly advocated sterili-

zation of the insane and their families; but when the tables were turned and insanity appeared within their families, they were eager to hush it up. Such was the case of a psychiatrist from the west coast in 1934. He had sent his son to Berlin for education. There the son committed a criminal act, was found to be mentally deficient and his sterilization recommended. The anxious father hurried from America to Europe and attempted to prove that the son's abnormal behavior was due to a cerebral birth injury and that he was, therefore, not subject to sterilization.

Summarizing, the author has attempted to emphasize the eminent rôle of danger in the life of a psychiatrist.

1. Six psychiatrists were assassinated by patients, a seventh psychiatrist was killed for non-professional reasons. The four-year-old child of a psychiatrist was murdered by a patient within a mental hospital. One psychiatrist was executed.

2. Several attempts were made to assassinate psychiatrists, in eight cases by employees of the institutions. Numerous attempts were frustrated at the last moment.

3. Among psychiatrists, fear reactions were recorded, as well as several cases of suicide probably in reactive depression. Two organic psychoses and two accidental infections with the Venezuela type of equine encephalomyelitis were described. No case of general paresis among psychiatrists has become known.

4. It seems that those physicians who devote themselves exclusively to psychiatry, are rather spared from psychogenic mental sickness.

THE ELECTROENCEPHALOGRAM AND PSYCHOPHYSIOLOGICAL REGULATION IN THE BRAIN

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Electrical records from the surface of the skull present a paradox: low potential beta waves are associated with a high level of cerebral activity or "tension," whereas higher potential alpha waves are characterized by a lower level of waking cerebral activity. This is the opposite of relations between electrical activity and levels of physiological function in other organs, the heart or muscles, for example, where increase of potential is associated with increased activity. How can we account for the paradox?

An explanation commonly offered is that in the resting waking state the neural elements of the cortex tend to follow a pacemaker, the thalamo-cortico-thalamic resonating circuits described by Bishop(1, 2) and Dusser de Barenne and McCulloch(3, 4). It is suggested that on excitation the various neural elements take up their own individual rates of discharge, differences of potential cancel one another out, and low potential fast activity remains. As when soldiers cross a bridge, the breaking of step prevents excessive oscillation.

Berger(5) suggested that the low voltage fast activity of the EEG is that of the outer cortical meshwork of fine cortical fibers and small ganglion cells. The persisting low potential fast cortical activity and elimination of slower frequencies after undercutting the cortex or destruction of corresponding areas in the thalamus shown by Dusser de Barenne and McCulloch(4) supports the view. The cells of the cortical meshwork, when driven by larger cells in the deeper layers of the cortex and their thalamic connections, and the synchronized feedback from the cortex to the thalamus provide a resonating system giving regularity and sinusoidal character to the normal alpha rhythm. Disturbance of this system doubtless accounts for many irregularities of the abnormal EEG. *To the extent* that a rate of discharge slower than the intrinsic one is imposed on the cells of the outer meshwork of the cortex, *to the extent*

that the rhythmic discharge of those cells is actually simultaneous and they are thereby rendered refractory to mutual stimulation, and *to the extent* that regularly repeated $10 \pm$ per second positive swings of potential impose periods of relative non-transmission on those cells, to that extent it may be assumed that the $10 \pm$ per second rhythm not only opposes or limits cortical frequency but reduces or inhibits cortical function. A strong alpha rhythm may thus be not merely a consequence but a cause of an accompanying state of mental relaxation. On the other hand, to the extent that stimulation or chemical conditions favor fast activity in the cortex and render it resistant to regimentation by the subcortical pacemaker, to that extent activity of the cortex may, by the absence of feedback, have a limiting effect on the $10 \pm$ per second subcortically determined activity. *Thus EEG frequency may represent a mechanism of mutual cortical-subcortical regulation. This may involve activity of the autonomic as well as of the central nervous system.*

EEG and Autonomic Function.—A difference in frequency corresponding in general to that between alpha and beta likewise characterizes the autonomic nerves controlling the blood supply of the brain. Parasympathetic fibers, as will be shown by available evidence, are characterized by relatively fast activity in the range of beta frequency. Sympathetic fibers, on the other hand, normally have frequencies corresponding in general to the alpha rhythm (Bronk et al., 6). In both the central and autonomic systems the fast activity favors cerebral vasodilatation, and in both systems the slower activity around 10 per second favors cerebral vasoconstriction. In the central system the association of low potential fast activity with vasodilatation (Darrow and Graf, 7) may be explained chemically by the effect of cortical excitation in raising metabolism and increasing production of carbon dioxide and other metab-

olites which are effective cerebral vasodilators. In the autonomic system the association of fast activity with dilatation is attributable to cholinergic action on the cerebral blood vessels (Darrow, Green, Davis and Garol, 8). By contrast, the activity around $10 \pm$ per second in the central nervous system may cause cerebral vasoconstriction indirectly by a reduced production of metabolites, and in the autonomic system it may produce cerebral vasoconstriction in so far as that frequency is a characteristic of sympathetic activity. Evidence regarding autonomic regulation of cerebral blood vessels and frequency control in the autonomic system will be outlined.

Reviews on regulation of cerebral circulation have been presented by Cobb(9), Forbes(10), Forbes and Cobb(11), Cobb and Lennox(12), Schmidt(13), and Stavraký(14). Contrary to early opinion (1866 to 1925) Stavraký points out that recent histological studies show cerebral blood vessels to be adequately supplied with autonomic nerves. Stimulation of sympathetic nerves to the brain has been shown to produce constriction of cerebral blood vessels by Cobb(15), Royle(16), Pool, Forbes and Nason(17), Thomas(18), and Norcross(19). Not only vasoconstriction in the brain by sympathetic stimulation, but also dilatation by parasympathetic stimulation in the same animals has been demonstrated by Forbes and Wolff(20), Finesinger and Putnam(21), and Pool, Nason and Forbes(22). Stavraký(14) obtained both effects from stimulation of appropriate areas in the hypothalamus.

Stimulation of parasympathetic fibers in the central ends of the cut vagus nerves has been shown to produce vasodilatation of cerebral blood vessels by Schmidt and Pierson(23), Forbes, Nason, Cobb and Wortman(24), Forbes, Schmidt and Nason(25), and Schmidt(26). Furthermore it was shown by Cobb(27), Forbes, Nason and Wortman(28) and Cobb and Finesinger(29) that the impulses pass through the medulla and over the facial nerve; and Chorobski and Penfield(30) demonstrated that the pathway extends through the facial nerve, over the geniculate ganglion, and along the greater superficial petrosal nerve to the plexus on the carotid artery, along which there is distribution to the cerebral blood vessels.

Darrow, Green, Davis and Garol(8) demonstrated a contribution of this pathway to parasympathetic (cholinergic) regulation of high potential in the EEG.

Although the relation of EEG frequency to vasomotor conditions in the brain has repeatedly been emphasized (7, 8, 31, 32, 33-38) only recently has a mechanism of frequency control of this relation begun to appear. Stimulation of the central end of the cut vagus nerve was found by Bailey and Bremer(39) to increase fast electrical activity in the frontal areas of the cortex. (Weak fast stimulation of the central end of the vagus produced depressor effects according to Marshall(40); 5-10 per second stimulation produced pressor effects.) Darrow, Green, Davis and Garol(8) demonstrated that stimulation of the peripheral end of the facial nerve proximal to the geniculate ganglion causes both cerebral vasodilatation and low potential fast activity in the EEG. Similar effects were produced by physostigmine. Section of the nerve favors vasoconstriction and slow waves during hypocapnia. Recording the presumably parasympathetic action potentials going toward the brain in the greater superficial petrosal nerve, Darrow, Green and McCulloch(41) found low potential 18 to 20 per second activity which behaved with respect to blood pressure and pulse much like the activity in the carotid sinus nerves recorded by Bronk and Stella(42). Leão and Morison(43, 44, 45) demonstrated association of cerebral vasodilatation with suppression of the stronger and slower EEG potentials following cortical stimulation.

Nerves of the sympathetic centers and of the hypothalamus, on the other hand, have a slower intrinsic rate, generally less than 10 per second in the anesthetized animal, according to Bronk, Ferguson, Margeria and Solandt(6), Bronk, Lewy and Larabee(46), Pitts and Bronk(47), and Pitts, Larabee and Bronk(48) although with stimulation they may be driven much faster. Bronk, Lewy and Larabee(46) remark the frequent similarity of the sympathetic action current to the Berger rhythm.

Cortico-Thalamo-Hypothalamic Relations and Cerebral Regulation.—The possible importance of the hypothalamus in cerebral regulation has recently been emphasized and

various the pr Baren demo prom system lamic (49), and M ever, petiti intral lamin sever thalam striat collic with find They intra parts gion elsev such natin rhyti Acti has and Saul The lami whic lami deno not rep han circ pro may of the in t see tion fee tha pos blo W lan

various views have been advanced regarding the probable rôle of the thalamus. Dusser de Barenne and McCulloch, as noted earlier, demonstrated the dependence of the more prominent EEG potentials upon projection systems from the ventrolateral sensory thalamic nuclei(3, 4). Dempsey and Morison(49), Morison, Finley and Lothrop(50), and Morison and Bassett(51), were, however, able in the cat to record rhythmic repetitive EEG-like activity from medial and intralaminar thalamic nuclei. In the intralaminar region activity persisted even after severing these areas from adjacent sensory thalamic nuclei, caudate nucleus, corpus striatum, and areas caudal of the anterior colliculus, presumably leaving connections with the hypothalamus intact. They did not find significant activity in the hypothalamus. They believe from this that activity of the intralaminar nuclei is not dependent on other parts of the brain and postulate that this region provides the pacemaker for activity elsewhere. They do not think that, with such a frequency generator available, resonating circuits are necessary to explain rhythmic and repetitive activity in the brain. Activity not limited to the intralaminar nuclei has been reported throughout the thalamus and hypothalamus by Gerard, Marshall and Saul(52) and Murphy and Gellhorn(53, 54). The latter authors demonstrate cortical, thalamic and hypothalamic interconnections which may be the basis of cortico-hypothalamic relationships. Obviously, by this evidence, cortico-thalamic feedback circuits may not be necessary to account for rhythmic, repetitive activity in the EEG. On the other hand, the activity of an accessory resonating circuit is not ruled out and such a mechanism provides a very likely explanation of the remarkable regularity and sinusoidal character of the normal waking alpha rhythm. Furthermore, facts of cerebral regulation as seen in the relation of EEG to autonomic function seem best accounted for by assuming regulation of the 10 per second pacemaker by a feedback system such as the thalamo-cortico-thalamic circuit. A reflex providing also a possible sympathetic feedback from the pial blood vessels has been shown by Levine and Wolff(55).

The possible rôle of the medial and intralaminar nuclei is intriguing in that it pro-

vides a neural basis for observed relationships between EEG and emotional changes. Head and Holmes(56) and Walker(57) have pointed out that this region may provide integration of sensory and autonomic activities into modalities of experience having affective quality. Carlson, Gellhorn and Darrow(58) obtained autonomic responses from stimulation of the region, comparable with those obtained from the hypothalamus. Murphy and Gellhorn(53, 54) have shown that 90 per second stimulation or strychnine in this region as well as in the hypothalamus may produce facilitation (increased frequency and amplitude) of electrical activity in the cortex.

A hypothalamic influence on the EEG such as appears possible from the work of Grinker and Serota(50, 60), Kennard(61), Obrador(62), and Murphy and Gellhorn(53, 54) helps account for the relation between EEG and autonomically controlled vasomotor changes in the brain(7, 8, 33-38). It makes clearer the observed relation between EEG and emotion. Nor is it necessary to assume that pacemaker activities arise in the hypothalamus. It is entirely possible that the initiating pacemaker lies in the intralaminar nuclei as suggested by Morison et al.(50, 51), that this may be given regularly by a parallel resonating feedback from the cortex to the ventrolateral thalamus as indicated by Dusser de Barenne and McCulloch(3, 4), and that the resulting rhythm directly or indirectly paces the hypothalamus. This would account for a regular 10 per second sympathetic rhythm. Bronk and Pitts and collaborators(6, 46, 47, 48) and Berry, McKinley and Hodes(63) have shown that although with sufficiently strong stimuli the hypothalamic and sympathetic rhythms may be driven much faster, they are easily controlled in rate by pacer potentials in the range of cortical frequency. With such a system the increase of alpha activity associated with mental relaxation might automatically provide a homeostatic reduction of blood supply by vasoconstriction, and activity in the sympathetic nerves to the brain, with proper timing, might reinforce the alpha potential of the central system. Afferent feedback from the cerebral vessels might occur as appears possible from the work of Levine and Wolff(55). Conversely,

cerebral vasodilatation, associated with "blocking" of alpha following stimulation (33, 37) may be attributed not only to increased metabolite production but also to reduced $10 \pm$ per second driving of the hypothalamus. The demonstrated correlation of sympathetic excitation and inhibition of parasympathetic activity with alpha potential (7, 8, 31, 32, 33-38, 64) leads us to seek some such mechanism.

The possibility that low potential fast activity in the EEG may reflect the presence of depressor fast activity in the carotid sinus nerves (Bogue and Stella, 65, Bronk et al., 6, 46, and Rijlant, 66) merits consideration. As already noted Darrow, Green and McCulloch (41) recorded in the greater superficial petrosal nerve supplying the cerebral blood vessels activity resembling that in the carotid sinus nerve. We have elicited fast EEG frequencies by carotid sinus pressure although not able satisfactorily to rule out muscle artifacts and effects of attention. Similar results have been reported by Forster, Roseman and Gibbs (67). The importance of carotid sinus and other moderator nerves has been further confirmed by tilting our subjects from horizontal to head-down and feet-down positions while recording EEG and autonomic changes (38). It is of interest in this connection that the low potential fast activity of the EEG usually observed after adrenalin, which is in contrast to what might be expected, is easily explained as the combined effect of carotid sinus sensitization by the drug (68, 69) and the increased reflex carotid sinus depressor activity caused by increased blood pressure (Cf. 68, 70, 71).

The Role of Regulation.—By these mechanisms the brain may be provided a degree of regulation simultaneous with and proportional to the disturbing value of a stimulus. Reflex excitation of the sympathetic system and reinforcement of $10 \pm$ per second rhythm at a time when cortical excitation favors increased fast activity in the cortex would have a homeostatic effect. The associated increase of sympathetic tone and cerebral vasoconstriction would reduce and help terminate vasodilatation attributable to increased production of metabolites. Inhibition of parasympathetic activity (8, 32, 35, 36, 58), either by constriction and limitation

of blood supply or by reducing supplies of acetylcholine, might help terminate strong excitation lest it become self-perpetuating. Proof that the autonomic system actually serves such a regulatory function is offered by the fact that the facilitating effect of hypothalamic stimulation on the cortex is greatly enhanced following section of the sympathetic nerves as shown by Murphy and Gellhorn (53, 54).

The effect of hypothalamic and autonomic mobilization on the EEG is possibly most frequently observed when arousing a person from drowsiness or sleep. Simultaneously with autonomic indications of arousal the EEG is usually characterized by a large increase of alpha activity. When, on the other hand, $10 \pm$ per second activity is already well developed as in the waking state of persons with a "dominant alpha" rhythm, further general increase of $10 \pm$ per second potential does not ordinarily occur with stimulation, first because the thalamo-hypothalamic centers are presumably already mobilized, and secondly because stimulation in such persons typically increases fast activity within the cortical meshwork, with consequent reduction of feedback and damping of 10 per second resonance (37).

A frequently observed exception to the typical "blocking" of the alpha rhythm by stimulation is the increase ("facilitation") of EEG potential in conditions of "readiness to respond" to a stimulus as reported by Williams (72, 73). This response to a stimulus during anticipation is known to be one of the most effective conditions for mobilization of autonomic activity, particularly the galvanic skin response. But it is a condition which, in the case of a familiar stimulating situation, presents little psychologically new calling for ideational (cortical) readjustment. Accordingly, change in cortical activity being small and subcortical and autonomic structures being the primary sites of bodily mobilization, there is a possibility of relatively unopposed strong domination of the cortex by the 10 per second rhythm and associated strong constrictor effects on the cerebral blood vessels.

In the field of *emotion* the evidence that EEG pattern and potential are determined by a balance between central cortical and subcortical (and peripheral autonomic) excita-

tions accounts for several previously unexplained phenomena.

A condition frequently associated with an increased alpha amplitude, sometimes called "facilitation," often occurs in emotional excitation where there is possibly a "relative functional decortication" (74) type of affect with suppression of central ideational activity and release of peripheral autonomic functions. A good example of this is Thiesen's (75) record of a reaction of fear in a young girl on presentation of a white rat. Associated with a severe emotional upset and increased heart rate there was increase of alpha activity and marked decrease of beta. The facilitation during stuttering reported by Travis and Malamud (76) may represent this type of response. Similar excitation by drugs and by a psychological stimulus are illustrated by Lemere (77). Such autonomic influences possibly contribute also to the hypothalamic effects of emotional disturbance reported by Hoagland, Cameron, Rubin and Tegelberg (78) and by Grinker and Serota (59, 60). "Psychomotor" attacks sometimes may involve this mechanism. Increase of both amplitude and frequency in emotion is reported by Knott (79). These are mechanisms which may account for many phenomena familiar as emotional response. Although one cannot deny the possibility that in certain conditions there may be a true "facilitation" of cortical function involving an increase of amplitude and frequency of cortical activity, it must be conceded that the preponderance of the evidence so far available indicates that normal sympathetic (and hypothalamic?) functions tend to slow down or moderate cerebral activity and to reduce blood supply, thus limiting rather than facilitating function in the cortex.

Need of such a regulating mechanism for limitation and, on occasion, for the termination of cortical activity is possibly evident in status epilepticus, in the excessive "tension" of certain states of anxiety and depression, and in the "ruminative tension" of anxious schizophrenics and depressed cases where low potential and rapid EEG's are common (Lemere, 77, Jasper et al., 80) and where "choppy" patterns (Davis, 81, 82) and spontaneous blocking (Boshes, Darrow and Solomon, 83) suggest interminable, self-perpetuating, circular neuronal patterns of self-stimulation. The poorly developed alpha

rhythm (77, 80, 81, 82, 83), and the deficit in sympathetic tone (Gellhorn, 68) so often characteristic of schizophrenic and related conditions may indicate a deficiency in thalamic and autonomic regulation of the cortex which would permit self-excitation to the point of cortical exhaustion. Fast frontal activity in such cases conducted to the hypothalamus might, like fast activity from the carotid sinus (42, 84), contribute, in turn, to inhibition of sympathetic activity and to reinforcement of cholinergic or parasympathetic concomitants (69, 85) of the condition. Shock therapy and lobotomy in such patients, whether by increasing sympathetic function (Gellhorn, 68) or by reducing central metabolic activity (Himwich and Fazekas, 86) would reduce spontaneous blocking of the EEG and improve alpha potential as observed (Boshes et al., 83, Davis, 87) following treatment.

SUMMARY

The paradoxical association of relatively large amplitude alpha $10 \pm$ per second activity with a relatively low level of waking cerebral function is attributed to the inhibitory effects of subcortical $10 \pm$ per second pacing of activity in the cortex and to associated autonomic effects causing cerebral constriction. On the other hand the association of fast activity with cortical excitation, metabolite (CO_2) production, and fast activity in cholinergic nerves accounts for associated vasodilatation. Thus, by the opposed effects of fast vs. $10 \pm$ per second slower activity, cortical and subcortical mechanisms may regulate one another. This may provide a homeostatic mechanism by which excitation in the cortex is normally prevented from producing excessive discharge or from self-perpetuation. Underactivity, overactivity, or imbalance of these functions would account for the EEG and autonomic patterns seen in many abnormal mental conditions.

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EFFECTS OF SEDATIVE DRUGS ON THE ELECTROENCEPHALOGRAM¹

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It is well known that there is a wide discrepancy in reported results of electroencephalographic findings in psychiatric patients. It was suggested by Dr. and Mrs. Gibbs that some of the reported abnormalities in psychiatric patients might be due to small doses of sedative drugs, commonly employed in psychiatric institutions. Greenblatt, Levin and Schegloff (1) described the EEG changes associated with bromide intoxication and stated that "both bromide and barbiturate intoxication may be a factor contributing to the high percentage of abnormal electroencephalograms reported in some groups of acutely psychotic patients."

The electroencephalographic effects of large doses of sedative drugs given intravenously have been reported (2-7). This situation is not comparable to the situation in psychiatric or general practice, where it is usual to give the patients small doses of sedative drugs by mouth at bedtime. It was, therefore, considered desirable to determine whether small oral doses of the commonly used sedatives can change an EEG from normal to abnormal; whether the change occurs in a sufficiently high percentage of cases to be significant; and whether the direction of the change (fast or slow) is determined by the individual's "pre-drug" EEG, the drug employed or by the dosage.

METHOD

A Grass four-channel machine was used. Electrode cups containing salt paste were held firmly on the scalp by a clip attached to the hair and were placed in the frontal, parietal, occipital and temporal areas bilaterally. Monopolar recordings were used throughout. The subjects were members of the student body and teaching staff of the medical school. There were 2 women and 8 men, with an age range from 20 to 30 years. The pre-drug recording was taken for 20 minutes and included two minutes of hyperventilation. The drugs employed for each sub-

ject were phenobarbital (0.06 gram), nembutal (0.1 and 0.2 gram), sodium amytal (0.1 and 0.2 gram), seconal (0.1 and 0.2 gram), chloral (1.2 grams), and paraldehyde (10 c.c.). A single dose of each drug was given by mouth, usually before breakfast, and 10 minute recordings (including two minutes of hyperventilation) of the frontal, parietal, occipital and temporal areas on one side were taken as nearly as possible at 2, 4, 6, 8, 12, 18 and 24 hours after the initial dose. If the record showed no change or returned to normal, no further recordings were taken. All recordings were classified according to the criteria of Gibbs, Gibbs and Lennox (8).

In addition, the records of all patients referred for diagnostic electroencephalography from the psychiatric in-patient service over a 2½ year period were reviewed. All patients discharged with a diagnosis of organic central nervous system disease or of epilepsy were excluded. The records of 90 patients were suitable for study: 45 had received sodium amytal, nembutal and/or barbitol within 24 hours of the EEG recording, and 45 had received no sedation within 24 hours. All the EEGs, regardless of the patient's age, were classified according to the standards established for young adults by Gibbs, Gibbs and Lennox (8).

RESULTS

Fig. 1 summarizes the findings on the 10 normal subjects, all of whom had normal pre-drug EEGs. Four of the 10 subjects failed to show any change with any drug. Four showed an increase in fast activity after most of the drugs. Nembutal and seconal produced a marked increase in fast activity in all 4 subjects, whereas chloral, paraldehyde, phenobarbital and sodium amytal were less regularly effective. Two subjects showed an increase in slow activity as a result of phenobarbital for both and of sodium amytal and chloral for one. Under these conditions the direction of the change (fast or slow) was constant for the individual but not for

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the drug, and significant electroencephalographic abnormalities were produced in 6 of 10 normal individuals.

The abnormalities referred to consist of (1) short bursts of 20 to 30 per second waves in the frontal and less often in the parietal leads, referred to as fast activity (Fig. 2); and (2) short runs of regular 6 per second waves in the frontal and less often

electroencephalographic changes first appeared in 30 minutes, or 15 minutes later than the symptoms, and occasionally reached their maximum in four hours when the symptoms had disappeared. Nor was the degree of symptomatology correlated with the degree of electroencephalographic change. For instance, subject number 5 (Fig. 1) had marked ataxia, double vision and drowsiness after most of the drugs, but no electroencephalographic changes. Subject number 10 (Fig. 1), who experienced almost no symptoms after sedation, had moderate electroencephalographic changes.

As a result of the work with normal subjects it was determined that small doses of the usual sedative drugs may change a normal to an abnormal EEG. However, the effects rarely lasted more than 12 hours, and these results did not indicate that significant changes often occurred under conditions usual in the psychiatric in-patient service, where sedation is given at nine p. m. and the EEG recorded the following day, or 12 to 19 hours later. In order to determine whether or not sedation may cause significant alterations under these conditions, the EEG records of sedated and non-sedated psychiatric patients were compared and the results are shown in Fig. 3.

Of the 45 patients who had received no sedation, 64.4 percent had normal EEGs, whereas less than half that number (28.9 percent) had normal records in the sedated group. The abnormalities in the treated group consisted chiefly of moderately (26.7 percent) or very (11.1 percent) fast activity, but moderately (10 percent) and very (8.2 percent) slow records did occur as well. The distribution of alpha frequencies was essentially the same in the treated and untreated groups.

In order to determine whether the marked differences between the treated and untreated patients might be due to factors such as age or clinical diagnosis, the two groups were compared with respect to these two factors and the results are shown in Tables I and II. The distribution by age corresponds closely in the two groups (Table I). It will be noted that 54 percent of the unsedated group over the age of 45 had "abnormal" records. These changes with age have been described by Gibbs and Gibbs(9), but have not been

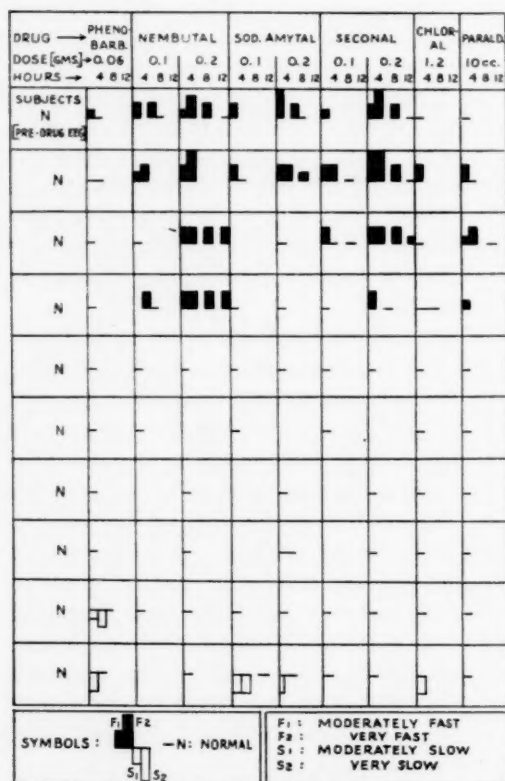


FIG. 1.—Shows the direction and degree of EEG change for 10 subjects (horizontal spaces) who received 6 different drugs (vertical spaces). A straight line signifies "normal" or "no change." Black columns above and white columns below this line indicate fast and slow activity respectively. The degree of change is indicated by the height of the columns.

in all leads, referred to as slow activity (Fig. 2). In no case did the predominant occipital frequency change more than one cycle per second. In no case were the changes attributable to drowsiness. The effect of hyperventilation was not altered in any case. In no case were the electroencephalographic changes correlated with symptoms either temporally or quantitatively. The

satisfactorily explained. The distribution by clinical diagnosis is shown in Table II. The differences between the two groups do not account for the difference in electroenceph-

mal EEGs as do unsedated patients. This difference is due to drug effect and not to age or clinical diagnosis.

In Fig. 4 are charted the data concerning

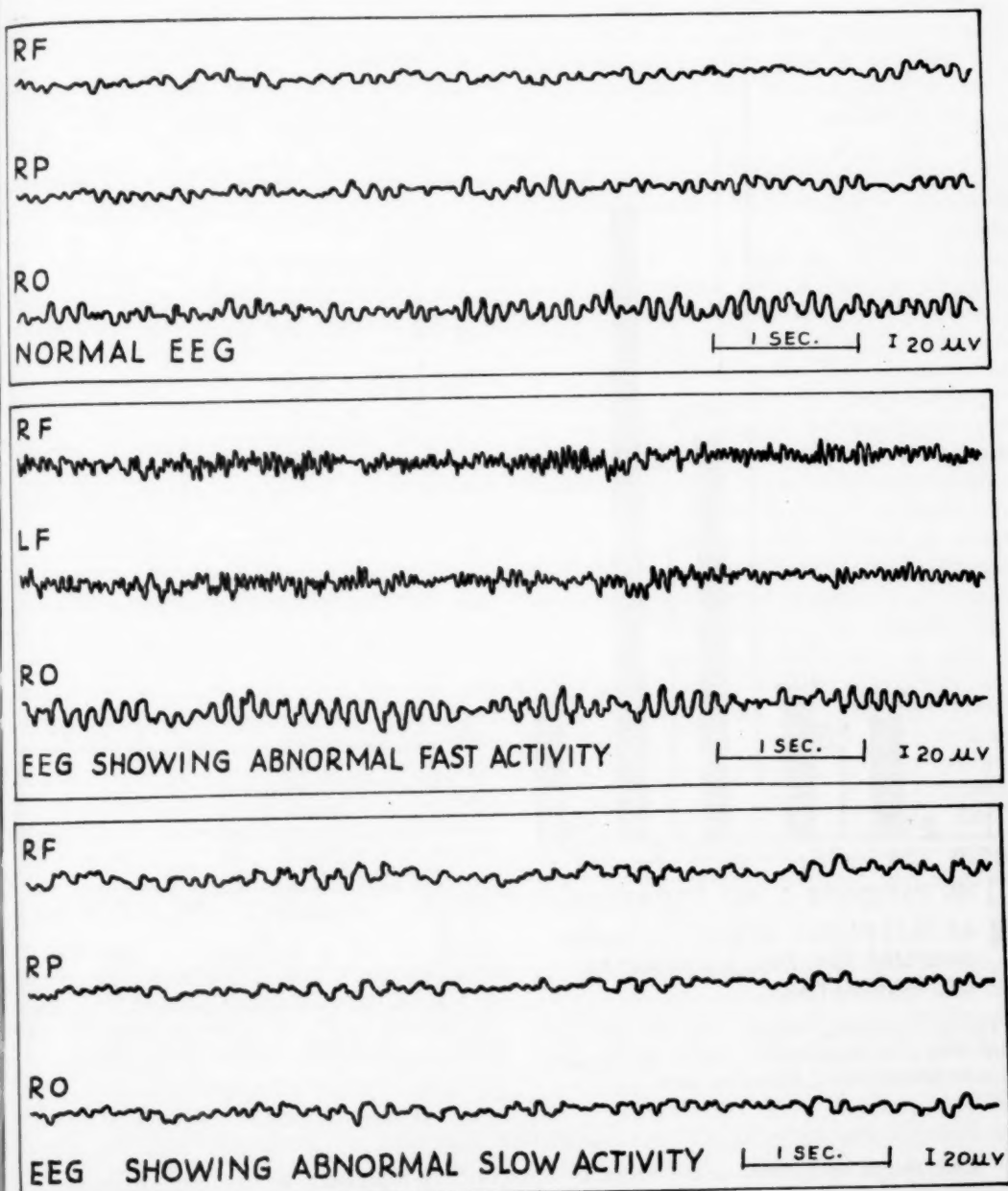


FIG. 2

alographic abnormality. The high percentage of abnormality in the unsedated depressed group is largely accounted for by the fact that 10 of the 16 patients were over 45.

It is concluded, therefore, that patients receiving sedation have twice as many abnor-

mal EEGs as do unsedated patients. This difference is due to drug effect and not to age or clinical diagnosis.

From an analysis of the data presented in

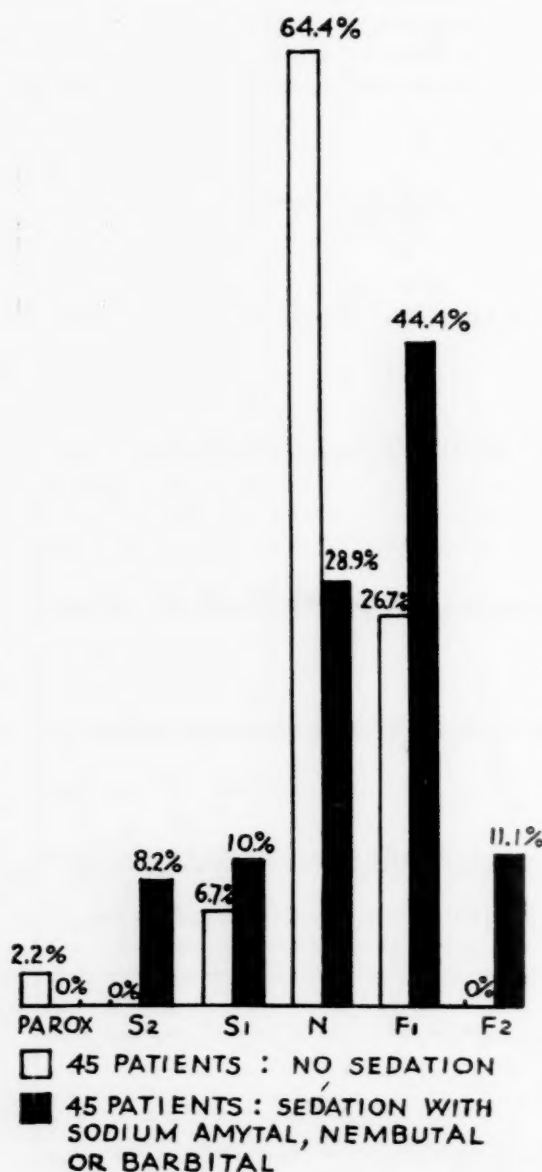


FIG. 3.—Symbols: Parox.=paroxysmal; S₂=very slow; S₁=moderately slow; N=normal; F₁=moderately fast; F₂=very fast.

TABLE I
COMPARISON OF SEDATED AND UNSEDATED PATIENTS WITH RESPECT TO AGE

	Under 45	Over 45
Sedated group (45) ..	34 (75.5%)	11 (24.5%)
No. and percent abnormal	24 (70.7%)	8 (72.7%)
Control group (45) ..	32 (71.3%)	13 (28.7%)
No. and percent abnormal	9 (28%)	7 (54%)

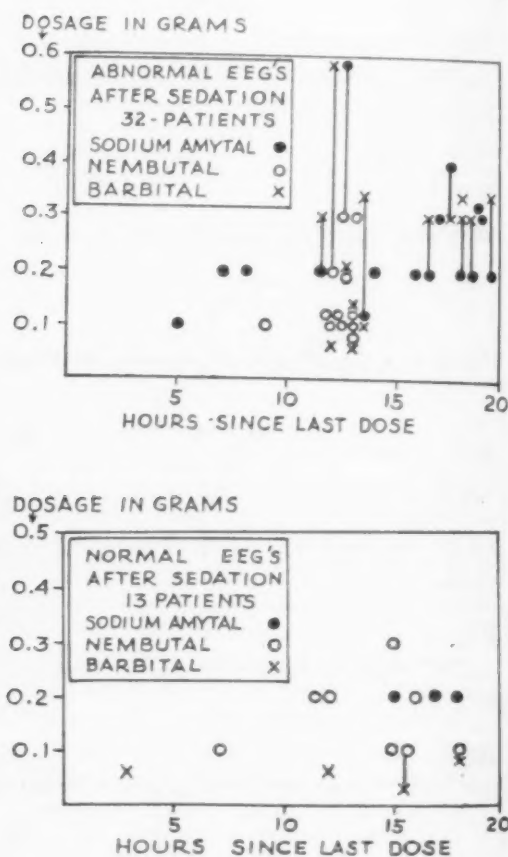


FIG. 4

TABLE II

COMPARISON OF SEDATED AND UNSEDATED PATIENTS WITH RESPECT TO CLINICAL DIAGNOSIS

	Depressed	Schizophrenic	Psychopathic
Sedated group (45)	12 (26.7%)	15 (33.3%)	18 (40%)
No. and percent abnormal	8 (66.6%)	12 (80%)	12 (66%)
Control group (45)	16 (35.6%)	14 (31.2%)	15 (33.3%)
No. and percent abnormal	9 (56.2%)	5 (35.7%)	3 (20%)

Fig. 4 it is concluded that these factors determine to some extent whether or not an EEG is abnormal after small doses of sedative drugs:

1. Dosage: In general, the higher the dosage, the higher the percentage of electroencephalographic abnormality. Patients who received 0.2 gram of total sedation or less showed abnormalities in 57 percent as compared with 95 percent abnormal EEGs in patients receiving 0.3 gram of total sedative or more. The correlation between dosage and percent abnormality is far from close, however. Seventy-one percent of patients on 0.1 gram of sedative had abnormal EEGs.

2. Time interval: There were fewer abnormalities (58 percent) in the records taken 15 to 20 hours after drug administration than in the records taken at an interval of 12 to 14 hours (85 percent). The time correlation is not a close one, however.

3. Type of drug: Sodium amytal was more effective in producing abnormalities (77 percent) than nembutal (57 percent) or barbital (60 percent). When two drugs were given in combination EEG abnormalities were more apt to appear than when only one drug was given. It is possible that the effect is merely additive: the total dose of sedative is apt to be much higher when two drugs are given than when one is given alone. We had too few patients to determine whether this is so or whether two drugs actually do act synergistically with each other, but we believe the latter explanation is the correct one.

Ten patients (not shown in the figures) received chloral or paraldehyde. Although the number is too small to be reliable statistically, it is of interest that the percentage of abnormalities corresponds very closely to that found in the control group of patients. This supports the evidence obtained from the 10 normal individuals that chloral and paraldehyde in the usual dosage do not cause prolonged electroencephalographic changes.

Age and clinical diagnosis could not be evaluated as factors because of the small numbers of patients.

Other factors could not be carefully evaluated, but it is our impression that (1) the drug effect is cumulative: electroencephalographic abnormalities are less apt to appear after the first dose and more apt to appear

when sedation has been used days or weeks; and (2) stimulants (especially caffeine) may prevent or diminish electroencephalographic changes produced by sedatives. We have no data as to how long the electroencephalographic changes may last. In this connection it is of interest that in one patient who had been on heavy sodium amytal sedation for two weeks, the EEG first returned to normal five days after sedation was discontinued.

DISCUSSION

Early reports in the literature indicated that phenobarbital(2, 3), sodium bromide and pentobarbital sodium(3) injected intravenously produced no EEG changes except those associated with sleep. Intravenous sodium amytal, on the other hand, produced an increase in fast activity irrespective of the characteristics of the pre-drug EEG(5). Brazier and Finesinger(7) confirmed and extended this observation. Intravenous sodium amytal, sodium pentothal and sodium pentobarbital invariably caused an immediate increase in fast activity. Twenty to thirty per second waves appeared first in the frontal leads and then spread posteriorly. In some individuals slow activity later replaced the fast. The effect of dosage on the type of EEG abnormality (fast or slow) was confirmed for bromides by Greenblatt, Levin and Schegloff(1). Patients with high blood bromide levels showed mainly slow activity. In the intermediary ranges of blood bromide concentrations the EEG tended to show abnormal fast and slow frequencies mixed, while at low levels of blood bromide, the EEG usually exhibited abnormally fast activity.

It is to be expected that EEG changes after oral administration of drugs are less uniform than after intravenous administration. Brazier and Finesinger(7) administered 9 grains of sodium amytal by mouth to 3 individuals. One showed no EEG change, one showed fast activity, and one fell asleep.

In our 10 normal control subjects, 4 showed an increase in fast activity after small oral doses of the usual sedative drugs. None showed a subsequent increase in slow activity, probably because the dosages given were small. In 2 individuals, however, slow activity alone (not preceded by fast) fol-

PATIENTS

Over 45
1 (24.5%)
8 (72.7%)
3 (28.7%)
7 (54%)



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lowed the administration of several drugs. It appears, therefore, that the degree and type of EEG response to various sedative drugs are determined by individual susceptibility as well as by the type of drug and dosage. In general our findings are in agreement with those of Brazier and Finesinger (7) and Greenblatt *et al.* (1): the typical response to small doses of sedatives is an increase in fast activity.

Eighty-seven percent of patients with a blood bromide level over 100 mg. per hundred cubic centimeters had abnormal EEGs (1). Seventy-one percent of our patients who had received barbiturate sedation within 24 hours had abnormal tracings. These figures indicate that sedation with barbiturates as well as with bromides "may be a factor contributing to the high percentage of abnormal EEGs reported in some groups of acutely psychotic patients" (1).

We have made no systematic study of the effects of sedation on an abnormal EEG, but other reports indicate that phenobarbital (10), bromides (1,10) and alcohol (11) may in some cases decrease or eliminate EEG abnormalities.

SUMMARY

A study is presented of the electroencephalographic effects of small oral doses of the usual sedative drugs (phenobarbital, sodium amytal, nembutal, seconal, paraldehyde, chloral) in 10 normal subjects with normal EEGs.

Data on 45 psychiatric patients who had received oral sedation within 24 hours of the electroencephalographic recording are compared with a control group of 45 psychiatric patients who had received no sedation. Patients with a diagnosis of epilepsy or of organic central nervous system disease were excluded from this study.

The results of the two methods of study are in essential agreement and lead to the following conclusions:

1. The commonly used barbiturates given orally in small doses may change a normal to an abnormal EEG. Paraldehyde and chloral do not cause prolonged alterations in the normal EEG under the conditions of this study.

2. The change occurs in an estimated 35 percent of individuals with normal electro-

encephalographic tracings. This change is of a nature and degree to require reevaluation of studies on patients receiving sedatives.

3. The change usually consists of an increase in fast activity, but it may consist of an increase in slow activity. In either case, the direction of the change is more constant for the individual than for the drug employed.

4. The factors which influence the appearance of an abnormal EEG after sedation are individual susceptibility, drug employed, time interval and dosage. The highest percentage of abnormal records occurs in the patients who received 0.3 gram or more of barbiturate 12 to 14 hours before the EEG.

Miss Dorothy Nixon and Miss Olga Noto rendered valuable technical assistance.

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THE TOXICITY OF ATABRINE TO THE CENTRAL NERVOUS SYSTEM¹

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I. TOXIC PSYCHOSES

INTRODUCTION

The occurrence of occasional toxic psychoses during the administration of atabrine has been noted in various reports since the introduction of the drug. A psychotic reaction in one or two of every thousand patients treated with atabrine may seem a rarity hardly worth consideration, and indicative of the remarkable safety with which atabrine can be administered. However, when many thousands of troops are treated for malarial fever within a circumscribed area the psychotic reactions are sufficiently numerous to require the psychiatrist to be alert constantly. Lack of awareness of the possibility of mental disturbances during atabrine therapy leads to delay in the withdrawal of the drug, occasionally with serious results, and to the erroneous diagnosis of the nature of the psychotic episode with unfortunate effects upon the future life of the patient.

This paper reports the experiences with atabrine psychoses of the neuropsychiatric sections of two general hospitals located on a non-malarious island in the South Pacific and covers a period of approximately 8 months. It is believed that the survey and analysis of the 28 cases observed may well increase the acuity of diagnosis and serve as the basis for further studies. Subsequent reports will be concerned with the occurrence of convulsions during atabrine therapy, and with experimental studies of the toxicity of atabrine to the central nervous system.

It is desirable to emphasize at the outset that the toxic psychoses herein described and the convulsions to be reported subsequently were produced, with the exception

of a very few cases, by dosages far in excess of the conventional therapy of 0.3 gm. daily for 7 days.

REVIEW OF THE LITERATURE

Toxic psychoses due to atabrine have been mentioned in numerous reports on atabrine therapy and have been the subject of at least one study. A thorough review of the literature has not been possible because of the isolated position of the writers. The topic appears to have received most attention in the far east and particularly in Malaya, where the term "atabrine psychosis" is commonly used according to Field (1). It is remarked in Stitt (2) that cerebral excitation from atabrine has been especially reported in native races in the far east and that in England such phenomena have rarely been observed. However, there have been several reports of cases in the United States (3, 4 and 5).

Kingsbury (6) reported the occurrence of 12 psychoses among several thousand patients treated with atabrine in Malaya. Eight reactions were mild and cleared rapidly, but 4 were sufficiently severe to require transfer to a mental hospital. The psychoses usually occurred at the end of a brief course of treatment, but one case became depressed 11 days after the cessation of therapy and another became deranged 4 days after completion of a course of 1.0 gm. given in 4 days. The possible influence of other factors—the malaria, intercurrent infection, previous instability—are discussed. Although the relationship to atabrine appeared clear, Kingsbury hypothesized that the mental disturbances might be due to the malaria itself, or to the release of malarial toxins by the atabrine. Briercliffe (7) in the following year reported 13 mental reactions among 7000 patients treated with atabrine during the Ceylon epidemic, the incidence contrasted sharply with the series

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treated with quinine. Hoops and Barrowman(8) in Malaya observed 4 cases among 9,000 treated with the drug. Field(1) reviewed the situation in Malaya where he had seen 6 cases in addition to those reported by others, and on the basis of his broad experience believed the mental complications to be among the important toxic manifestations of atabrine. He believed that although malarial psychoses are known to occur, "the higher incidence among cases treated with atabrine favors the view, widely held in Malaya, that atabrine is at least a contributory cause." A survey of abstracts of reports of the use of atabrine in large series of patients indicates that serious psychoses are uncommon and that even transient upsets are infrequent. The incidence varied from none to 2 cases per 1000, which is commensurate with the findings on this island.

Field(1) also reported 6 cases of mental disturbance among 1,628 Indian laborers receiving prophylactic atabrine over a period of 15 months. The reactions were similar to cases observed following atabrine therapy. Psychoses were rare among the laborers given quinine and among a control group who did not receive prophylaxis. No other reports of psychoses due to prophylactic atabrine could be found. The subject has received comment in the *Journal of the American Medical Association*(9).

CRITICAL CASES

It was noted in the review of the literature that some investigators retained a reasonable doubt that atabrine, or that atabrine alone, was the cause of the toxic psychoses reported. The cases which first attracted the attention of the writers to the problem on this island also served as controlled cases, and 3 cases, taken in conjunction, appear to prove that the drug can produce toxic psychoses. The histories are given briefly.

CASE 3.—A 22-year-old soldier was evacuated to a general hospital from another island because of malarial fever for which he had been treated, presumably with atabrine. While on the hospital ship he had suddenly become confused and had to be restrained. Improvement was very rapid and when he reached the hospital several days after the onset of the excitement, there was no evidence of psychosis and the sensorium was clear. He recalled little of the episode other than that he had been dazed and confused. Two days after admis-

sion to the hospital he was started on a course of atabrine as further treatment for his malaria although he was afebrile and smears were negative for parasites. Atabrine, 0.1 gm. t.i.d. for 14 days was administered, a total of 4.2 gm. Three days after the termination of the treatment he suddenly became confused, excited and combative. He developed auditory hallucinations and spoke of mysterious messages, rays and signals. The episode lasted for 6 days and then subsided rapidly. Within 2 days he was again completely rational and showed no evidence of confusion. He remained normal until transferred to the United States. The past history and the family history were noncontributory. Physical examination revealed no abnormalities and the laboratory data were essentially normal. Three malarial smears were negative.

The repetition of a psychotic episode of brief duration and characterized by confusion and excitement following atabrine therapy seemed to indicate that the reaction was toxic and caused by the atabrine. It can be assumed that atabrine was given originally because this was by far the commonest drug used in this area for the treatment of malaria. Shortly after the case was observed another case was seen in which the conditions could be more carefully controlled.

CASE 1.—A 20-year-old soldier was admitted to an evacuation hospital with jaundice. He had been taking prophylactic atabrine for 5 months in amounts of approximately 0.1 gm. daily, and had received a brief course of plasmodochin. While in the hospital he suffered a chill and both plasmodium vivax and falciparum were found in the blood smear. He was treated with quinine because of his jaundice. Twenty-five days after his admission he was transferred to a general hospital. Physical examination revealed marked weight loss and a palpable spleen. The jaundice had cleared. The soldier was cheerful, friendly and cooperative. He was given additional malarial therapy although the blood smear was negative. He had received atabrine 0.1 gm. t.i.d. for 6 days, a total of 1.8 gm. when the treatment was stopped. On the 5th day of treatment he became apprehensive and asked to see the chaplain. The chaplain noted marked confusion and requested that the psychiatrist see the patient. On the 6th day he was severely confused and expressed ideas that everyone was against him. He continued to grow worse for 7 days, became markedly agitated and believed that his father was poisoning him and that his mother had died. He appeared to be hallucinating at times. Improvement then occurred rapidly over 5 days and he again became friendly and cooperative, unable to understand what had happened to him. He talked freely about his past life and his difficulties. Ten days after the onset of improvement and 16 days after the last atabrine had been given, he was started on another course of atabrine, 0.1 gm. t.i.d. and observed carefully. Four

days later there appeared to be a change in his behavior but it was not definite, but on the 5th day he was again moderately confused and agitated, and began to express delusional ideas. Atabrine was stopped immediately, fluids were forced, the patient was sedated, and within 3 days he was completely recovered. The psychotic episode brought a number of his friends to the hospital, men who had known him for 2½ years in the Army. They all insisted that he had been extremely calm during combat and had always seemed well adjusted to the Army. Actually the content of the psychosis was closely knit with his preoccupations. He had suffered a very unhappy childhood because of a cruel and alcoholic father. The parents had separated when the patient was eight and he had never again seen his mother. During combat the soldier had pondered a great deal about his lack of family life and had resolved to return to his mother and leave the vagrant father.

The production of two psychotic episodes during atabrine therapy, each showing recovery after withdrawing the drug, indicates beyond reasonable doubt that the reaction was caused by the drug. It is of interest that the psychosis reoccurred after the same amount of atabrine had been given and that the symptomatology was almost identical. The content of the delusional beliefs was understandable in terms of the soldier's personality and problems, though described but briefly here.

Although neither of the patients was suffering from attacks of malaria when the atabrine was given, they suffered from malaria and it is vaguely possible that "release of malarial toxins" by the atabrine may have contributed to the production of the toxic reaction. The rôle of atabrine was further confirmed by the occurrence of a transient psychotic reaction in a subject who had never had malaria and who was taking the drug for experimental purposes.

CASE 7.—A 34-year-old medical officer, who was in excellent health and who had never had malarial fever, volunteered along with 5 other officers to take atabrine 0.2 gm. t.i.d. for experimental purposes which are unconnected with this paper. He was in good spirits and he is a person of unusual stability. On the evening of the 4th day of the experiment, after having taken 2.4 gm. of atabrine, he found himself unable to concentrate and became mildly elated. His conversation shifted rapidly from one topic to another and he was unable to control his talk and laughter. Brief examination of the sensorium showed that he was unable to reverse 5 digits, and he made two errors in an attempt at the serial subtraction of sevens from a hundred. During the night he awoke with a severe

nightmare, and when awake believed that someone was in the room. On the following morning he was no longer confused and was capable of working efficiently. He may have remained a trifle elated for another day or two. Of the 6 officers participating in the experiment, 2 others complained of difficulties in concentration and of lassitude on the 4th day, and the experiment was discontinued.

The reproduction of two transient psychoses by the administration of atabrine, and the appearance of a psychotic reaction during atabrine intake in a person who had never suffered from malaria, would appear to demonstrate as completely as it is possible that atabrine produced psychoses. Further attempts to reproduce psychoses were not made as cases were seen which did not recover rapidly or completely and the procedure appeared too hazardous.

The patients selected for this study include all cases of psychosis which occurred during or shortly after atabrine therapy. The writers realize that in a few cases the occurrence of the psychosis during atabrine therapy may have been coincidental, and believe that one or two cases were schizophrenic psychoses which were precipitated by the toxic effects of the drug. With the exception of these cases, which also displayed toxic features, the cases all met with the criteria of toxic reactions as will be mentioned later.

Several psychoses were observed which became manifest while the soldier was taking prophylactic atabrine. They are not included in this study, however, as the patients all gave a history of severe instability and in 2 cases had suffered previous psychotic episodes. They were all considered to be rather typical paranoid schizophrenic developments.

In addition to the cases reported, a number of patients were seen who seemed to show a mild toxic reaction to heavy atabrine therapy. They described a slight difficulty in concentration, and either lassitude or mild exhilaration. They are not included in the study because they showed no confusion that could be observed or any psychotic symptoms.

The differential diagnosis from cerebral malaria never arose, though it might conceivably occur. The following facts are to be noted concerning the cases being reported. None of the patients was stuporous, coma-

tose or delirious during the height of the malarial attack. All patients were afebrile when the toxic reaction occurred, and the blood was free from parasites in all but one case. Finally, all, except one patient, have tertian malaria in which cerebral malaria is extremely uncommon. Case 1 had both plasmodium vivax and falciparum in the blood smear. In the cases of cerebral malaria which were observed no difficulties in differentiation from toxic psychoses presented themselves.

The essential data concerning the cases are charted in the table on opposite page. The cases are ordered according to the dosage rather than in the sequence in which they were seen. The protocols for all of the cases will not be given as many were essentially similar in pattern. The case reports will be cited as briefly as possible to illustrate items of interest and the variety of the clinical pictures observed. The items listed in the tables: the dosage, onset, symptomatology and recovery, as well as etiology and treatment, will be discussed below.

DOSAGE

Patients were treated for malaria according to a wide variety of therapeutic schedules. The writers formed a definite impression that the frequency of mental reactions increases with the amount of atabrine administered and the rapidity with which large quantities are given, but the belief cannot be corroborated statistically as it has not been possible to learn how many patients were treated by each plan of therapy. The type of treatment and the amount of atabrine received by each patient who became psychotic will be found in the table. A very large number of patients were treated for 7 days with 0.3 gm. daily, and another large group received 1.0 gm. on the 1st day and then 0.3 gm. daily for 6 days and only 2 patients in these groups became psychotic. Three patients who received 0.3 gm. daily for 14 or more days became mentally ill, and another 3 were receiving 0.6 gm. daily for 7 days. The remaining 19 patients were on some schedule of massive treatment. They had received 1.4 gm. in 24 hours, a dosage which was at times repeated after a free interval of 24 hours; or 1.0 gm. in 24 hours

followed by 0.6 gm. daily; or 0.9 gm. for 2 or 3 days, followed by 0.4 gm. or 0.6 gm. daily. Case 28 received 0.9 gm. daily for 7 days, but this was either an isolated experiment or due to an error, as no group of patients received atabrine in such massive amounts.

The treatment with 1.4 gm. in 24 hours or with multiples thereof, which was used in an evacuation hospital appears to have been dangerous even though it is not known if the proportion of psychoses which occurred on the régime was unduly high, for it will be noted that 7 of the 8 patients who developed mental reactions while on this schedule showed a marked delay between cessation of treatment and the onset of the psychosis which often appeared after discharge from the hospital, and the reactions were prolonged and the recovery rate was poor. It was only during the period when treatment consisted of atabrine 0.9 gm. for 2 or 3 days, followed by 0.6 gm. for 4 or 5 days that psychotic reactions were a frequent occurrence at one of the general hospitals, and subjective complaints of confusion were heard. The dosage was cut to 2.8 gm. in 7 days and in the ensuing months no psychotic reactions were seen and no complaints of confusion were heard, though there was no appreciable change in the number of patients treated.

ONSET

Usually the onset of the psychosis was extremely abrupt with the patient suddenly becoming excited and confused without antecedent complaints, but some reactions appeared more gradually with complaints of pressure of thought and evidence of mild confusion for a day or more before the obvious psychotic manifestations. Occasionally there was an increase in pre-existent neurotic complaints before the confusion became obvious. The abrupt onset was extremely striking and, at times, perplexing. Thus, Case 21 had been extremely pleasant and co-operative during the first 4 days of treatment. He had received 0.3 gm. t.i.d. for 2 days and 0.2 gm. t.i.d. for 2 days and apparently had been feeling very well. When he returned to his ward after a motion picture show on the fourth night of the treat-

TABLE
SUMMARY OF TWENTY-EIGHT CASES OF ATABRINE PSYCHOSIS

Case No.	Age	Service (years)	Dosage			Major symptoms							Recovery	
			Schedule of treatment (grams per day)	Total amount (grams)	Duration (days)	Onset of psychosis (days after start of treatment)	Confusion	Excitement	Elation	Depression	Delusion	Hallucination	Started (days after onset of psychosis)	Degree*
1	20	2-6/12	0.3	1.8	6	5	++	++	++	++	++	++	7	++
2	30	1-6/12	0.3	3.0	10	5	++	++	++	++	++	++	11	++
3	34	1	0.3	4.2	14	17	++	++	++	++	++	++	6	++
4	34	1	0.3	5.1	17	17	++	++	++	++	++	++	1	++
5	28	2-6/12	0.3	6.3	21	22	++	++	++	++	++	++	30	0
6	36	2-4/12	0.3	6.3	21	22	++	++	++	++	++	++	1	++
7	34	1-6/12	0.6	2.4	4	4	++	++	++	++	++	++	20	++
8	25	1-11/12	0.6	4.2	7	8	++	++	++	++	++	++	11	++
9	23	2-3/12	0.6	4.2	7	8	++	++	++	++	++	++	?	0
10	24	2-2/12	1.4	1.4	1	5	++	++	++	++	++	++	8	++
11	24	2-4/12	1.4	1.4	1	4	++	++	++	++	++	++	15	++
12	26	2-3/12	1.4	1.4	1	5	++	++	++	++	++	++	25	++
13	28	2-4/12	1.5	2.8	3	8	++	++	++	++	++	++	25	++
14	24	2-9/12	1.4x2†	2.8	3	11	++	++	++	++	++	++	1	++
15	23	2-8/12	1.4x2	3.2	5	5	++	++	++	++	++	++	2	++
16	28	2-7/12	1.4x2 0.4x1	3.6	8	5	++	++	++	++	++	++	3	++
17	29	3	1.0x1 0.6x4‡	5.2	5	5	++	++	++	++	++	++	1	++
18	25	2-6/12	1.0x1 0.6x7	1.8	2	2	++	++	++	++	++	++	3	++
19	30	2-5/12	0.9x2	3.8	7	8	++	++	++	++	++	++	1	++
20	23	1-11/12	0.9x2 0.4x5	3.0	4	4	++	++	++	++	++	++	6	++
21	24	1-9/12	0.9x2 0.6x2	4.4	7	7	++	++	++	++	++	++	6	++
22	25	2-10/12	0.9x2 0.6x4+	4.8	7	5	++	++	++	++	++	++	2	++
23	24	2-3/12	0.9x2 0.6x5	4.8	7	7	++	++	++	++	++	++	2	++
24	24	2-6/12	0.9x2 0.6x5	4.8	8	9	++	++	++	++	++	++	3	++
25	21	2-7/12	0.9x3 0.4x5	4.7	4	4	++	++	++	++	++	++	1	++
26	34	2-5/12	0.9x3 0.6x1	3.3	6	6	++	++	++	++	++	++	2	++
27	25	2-2/12	0.9x3 0.6x2+	4.3	7	7	++	++	++	++	++	++	10	++
28	24	2-7/12	0.9	6.3	.7	7	++	++	++	++	++	++		++

* Degree of recovery indicated by: + + + + + Full recovery; + + + Recovery from psychosis but neurotic residue; + + Marked improvement but psychotic manifestations remain; + Slight improvement; 0 Unchanged.
† 1.4 gms. in 24 hours, repeat after a free interval of 24 hours.
‡ Indicates 1.0 gm. for one day followed by 0.6 gm. for 4 days and a fraction.

ment, he suddenly became excited, started to throw objects, was disoriented and appeared panicky, fearful that he was going crazy. He was quieted with sedation, slept soundly, and was fully recovered within 2 days. Case 4 had received atabrine 0.1 gm. t.i.d. for 17 days and had always been genial and cooperative. Following supper on the 17th day of treatment, he was found wandering about in a daze and was disoriented. Soon thereafter he stood rigidly, and with fixed beatific expression talked in repetitive and disconnected phrases as if he were God. After a night's sleep induced by heavy sedation, he awoke completely clear and unable to understand his behavior of the previous evening which he recalled dimly. His past history revealed moderate alcoholism but no evidence of marked instability. During subsequent months on the island there was no indication of psychotic behavior.

The psychosis most frequently began during the course of treatment or on the day following the completion of the therapy. However an onset several days after the cessation of treatment was encountered, particularly among the patients who received 1.4 gm. of atabrine in 24 hours. The prolonged delay in the onset of symptomatology naturally gave rise to doubts as to the toxic nature of the psychoses too, but the presence of confusion as a cardinal symptom made the diagnosis seem fairly definite. The scepticism of the writers concerning the possibility of delayed reactions was allayed by the following case which was typically toxic and free from neurotic or delusional coloring.

CASE 25.—A 21-year-old corporal with over 2½ years of army service and an excellent combat record was admitted to a general hospital with a second recurrence of tertian malaria. He had been treated 6 months previously with atabrine 4.2 gm. in 7 days without ill effects. His physical condition was excellent. The second recurrence was treated with atabrine 0.3 gm. t.i.d. for 2 days and 0.4 gm. daily for 5 days. It was later learned that in an effort to avoid hospitalization he had taken 0.9 gm. of atabrine on the day preceding admission. He thus had received a total of 4.7 gm. in 8 days. He was discharged 2 days after the termination of therapy and on the following day was admitted to the other general hospital in a markedly confused state. He was disoriented for time, place and person, and had been wandering about in a daze before hospitalization. His answers to simple questions were badly muddled, and he

realized that he could not think properly. There were no delusional or depressive trends, he simply could not care for himself or grasp what was happening. He was reassured that he was not losing his mind and sedated heavily. On the following day he was oriented, capable of full cooperation, but still slightly confused. On the 3d day of hospitalization, 5 days after the last atabrine had been given, he was completely well. When he recovered he recalled that on the day following the cessation of atabrine therapy he had found himself walking in the rain barefoot and had thought it was a strange thing for him to do; and on the next day, when he was discharged from the hospital, had acted rather foolishly as if mildly intoxicated. However there had been nothing obviously wrong until 3 days after the termination of atabrine treatment when he had been unable to find his way about his company area. The past history gave no indication of emotional instability. He was intelligent and highly regarded by his officers. He continued to behave normally following discharge from the hospital, having insisted that he could return to combat as he would not take heavy dosage of atabrine in the future.

RECOVERY

The extent of recovery is indicated in the table as from 0 to 4 plus. The day of onset of recovery is given as indicated in days after the onset of the psychosis when definite improvement first appeared. Eight patients did not show satisfactory improvement, as indicated by less than 3 plus. Four of these failed to show any evidence of improvement while under observation. It is believed that 2 of the patients who failed to make adequate recoveries were most probably schizophrenic reactions precipitated by the atabrine or malaria.

It is striking that 4 of the 8 patients who failed to recover were among the 7 who became mentally ill after treatment with 1.4 gm. in 24 hours or 2.8 gm. in 72 hours. On the other hand the only patient who did not recover completely among the reactions precipitated by atabrine 0.3 gm. given daily, had given evidence of having suffered from delusional ideas for more than a year prior to the onset of the frank psychosis. The case is given below and is one of the 2 patients in whom it was considered that atabrine had precipitated a latent schizophrenic psychosis.

CASE 5.—A 28-year-old corporal with 2½ years of service was treated for tertian malaria with atabrine, 0.1 gm. t.i.d. for 21 days (total intake 6.3 gm.). On the day after the course was completed he became mildly confused and his talk and

letters were rambling and poorly connected. The confusion mounted in severity during the next 9 days; he started to make erotic advances to the nurses in contrast to his usual shyness; he found references to himself in magazine articles and news clippings; his talk bordered upon the incoherent. Finally he became acutely excited, masturbated openly, and was hallucinating. He believed that his girl was in the room with him, and his content was concerned primarily with his relationship with this girl. It was learned from men in his company that he had always been considered somewhat eccentric, and had been growing more and more withdrawn. About a year and a half before admission to the hospital, while still in the United States, he had returned from a furlough and announced that he was married, and continued to insist that he was married even though friends knew with certainty that he was single. About 9 months later he had passed out cigars to celebrate the birth of a son, though it was known that he not only did not have a child but that the girl whom he insisted that he had married had not even written to him, and was merely a casual acquaintance. The insistence upon his marriage and paternity was not carried on as a jest. During the psychotic illness he discussed the matter and admitted concern because the girl had refused to marry him when he had thought that he was obligated to marry her because he had made sexual advances. Little information concerning his early life could be obtained. His home life had been unhappy and his parents had been divorced when the patient was 22. His mother was a highly nervous person and her remarriage had caused the patient to leave home. The patient remained unimproved at the time he was transferred to the United States 27 days after the onset of the psychosis. Physical examination and laboratory data were non-contributory.

Toxic psychoses are expected to recover after the toxic substance is eliminated from the system. Twenty of the 28 patients recovered promptly as would be anticipated, and several of the remaining 8 were observed for intervals too brief to know whether or not recovery occurred. Atabrine is eliminated from the system slowly after massive dosage which may account for delays in recovery. However, certain personalities may have been insufficiently stable to recover from the psychotic reaction after it had occurred. It is not possible to judge from the cases seen if atabrine can produce irreversible changes in the nervous system.

CLINICAL PICTURE

The nature of the psychosis varied widely. The psychoses were extremely transient in most cases but lasted well over a month

without indication of improvement in a few. Most cases were characterized by an abrupt onset but in a few instances the onset was gradual. Some patients were excited, others apathetic; some wildly elated and some depressed. More than half were acutely delusional, and in some the delusional material was scattered and fragmentary, and in others almost systematized. Six patients were known to have hallucinated, and there were visual as well as auditory hallucinations. There were other symptoms, some of which were noted in many cases. Many patients felt that everything had speeded up and they were under pressure to do things rapidly. Several patients, formerly well behaved, started to make erotic advances to the nurses. Anxiety and apprehension, particularly the fear of impending insanity which verged on panic, was common in some of the less severe intoxications. However, the consistent sign, noted in all but one case in which manic behavior may have masked it, was the presence of confusion.

Confusion is a sign which is essential to the diagnosis of toxic psychosis, for the impairment of the intellect accompanies, if it is not the factor which permits, the appearance of the other manifestations. In the cases being reported the confusion mounted beyond slight impairment of intellectual resources and consisted of definite clouding, with difficulties of grasp, frequent contradictions, impairment of memory, and often frank disorientation. At times the confusion was to be noted only by the bewildered or excited behavior, but questioning soon revealed the difficulties of grasp and reasoning. Latent personality problems and situational factors often colored the content. Psychoses could not be assumed to be due to atabrine simply because the patient had been receiving the drug, for on an island where thousands are receiving the drug, psychoses of non-toxic origin may be expected to appear among them. It was therefore necessary to be on the alert whenever psychotic patients were encountered, to seek a history of atabrine intake and examine the functioning of the mental capacities carefully to evaluate the evidence of confusion. In the large majority of the cases, the confusion was very apparent, and the close relationship of onset to atabrine intake and recovery to

cessation of drug therapy, left little room for doubt concerning the diagnosis.

Cases will be cited as illustrations of the divergent clinical pictures. The patient cited above (Case 25) to illustrate the delayed onset, also exemplifies the difficulties in grasp, impaired mentation and disorientation as major problems. The following case, which was more transitory, shows how the confusion, mingled with pressure of thought and a feeling of sudden lucidity, verged upon excitement and elation.

CASE 26.—A 34-year-old soldier with 2-5/12 years of service was admitted to a general hospital with a fourth recurrence of tertian malaria. During the preceding attack he had received 1.5 gm. of atabrine in 24 hours without ill effect. *Plasmodium vivax* was found in the blood smear and he was given atabrine 0.3 gm. t.i.d. for 3 days and 0.2 gm. t.i.d. for one day (a total of 3.3 gm. in 4 days) when on the 4th day he suddenly became confused. He appeared in the nurse's office and said, "It's all clear. We are just back from France." He was disoriented for time, place and person. He said that he felt well but had been asleep for days; that he had many things to do. He rapidly became overactive and noisy. He was given mild sedation, after which he cried and went to sleep. When he awakened after several hours of sound sleep, he behaved normally, and realized that he had acted strangely. On the following day, when he was completely clear, aside from some questionable intellectual impairment, he recalled that everything had suddenly seemed "clear" to him, as on the one occasion when he had taken cocaine. He had thought the nurse was a former school teacher, and had felt that he must hurry to do many things. He remained well and was discharged from the hospital 12 days later, and has remained well during the subsequent months. The soldier had been steady in combat and no history of early neurotic traits could be elicited. The family and past history were non-contributory.

Some patients with an onset similar to that in the case just presented went on to become markedly excited and elated. When the symptoms appeared more gradually they were apt to be overlooked at first, as in the case given below, where the relationship to atabrine was not recognized immediately and the drug was not stopped promptly. The case, incidentally, is one of the 2 which occurred on a very small amount of atabrine.

CASE 2.—A 30-year-old soldier with 1-6/12 years of service was admitted to a general hospital with malarial fever. *Plasmodium vivax* was found in the smear; laboratory and physical examination were otherwise non-contributory. The patient was given 0.6 gm. of quinine t.i.d. for 7 days and was

soon afebrile. He was then given atabrine 0.1 gm. t.i.d. for 10 days, a total of 3.0 gm. On the 5th day of the course of atabrine, he became hyperactive, demanding, and over-talkative. His condition became worse until on the 10th day he had to be placed in a locked ward as he was belligerent and markedly disturbed. He displayed flight of ideas and grandiose ideas. He spoke of rapid promotions which he was about to receive; filled out application papers for officer candidate school; planned to write a book on the cure of mental illness; started to memorize the almanac. He began to improve after 11 days on the locked ward and after another 8 days was completely recovered. He had shown no behavioral abnormalities during his army service, and had stood up well during several months in combat. The past history gave no evidence of marked instability. The patient stated that he tends to be active and restless. A brother had spent 6 months in a mental institution.

Excitements accompanied by delusional and hallucinatory phenomena rather than by elation have been illustrated already by Cases 1, 3, and 5. The clinical picture when full-blown resembles closely that of acute schizophrenic excitements which may also be transient illnesses.

The depressive reactions have also varied, some colored by anxiety and agitation and others by delusional content. The following case appeared profoundly depressed but at the same time displayed schizophrenic features.

CASE 22.—A 25-year-old soldier with 2-10/12 years of service was admitted to a general hospital with his first recorded attack of malaria. Tertian parasites were found in the blood, and he was treated with atabrine 0.3 gm. t.i.d. for 3 days and 0.2 gm. t.i.d. for 5 days. The atabrine was stopped on the final day of treatment, after the patient had received 4.4 gm. in 7 days, because he had become confused and wandered about the ward aimlessly. He was unable to speak clearly and was mixed up concerning the time of day. He admitted that he was worried but would say little as he was apprehensive and suspicious. He refused medication and food, believing them poisoned. He stood in the corridor and refused to move or speak. He was transferred to a locked ward for more careful supervision where he improved sufficiently after 4 days to return to an open ward where he gave no difficulty although he remained depressed and suspicious. He was transferred to the United States 11 days after the onset of the psychosis, and though still far from well seemed on the way to recovery. The patient had been highstrung in civilian life and had frequent episodes of faintness and palpitation. He had been sent home from a CCC camp because of nervousness. His work record had been irregular. There was a record of three brief jail sentences, two for intoxication and one for passing a bad check.

Shortly after induction into the Army he had been hospitalized because of palpitation and nervousness. In combat it had been necessary to remove him from the lines because he "went to pieces" and he spent most of the time in combat in a rear area working about the kitchen. His mother and one sister are considered to be very nervous and his father is quick-tempered and harsh.

The toxic symptoms are not always clearly psychotic in that confusion and difficulties in thinking may lead to anxiety symptoms which verge on panic rather than definite abnormalities in behavior; or more commonly, a transient psychotic episode will be insignificant in comparison with the anxiety that remains as a residue. When, as was the case on this island, the patients receiving the atabrine have just emerged from an extremely trying jungle campaign, and are still very much on edge, it is possible for the psychiatrist to overlook the rôle of the atabrine. In some cases the confusion caused by the drug seems to have removed the self-control which had kept the difficulties subordinated. An example of this is Case 18 which has already been mentioned briefly to illustrate precipitous onset. The patient suffered a definite but short-lived confusional episode during atabrine therapy, and during it discussed for the first time the despair and depression he had been feeling because the girl to whom he had been engaged had married another. He had handled his troubles well for many months, but following the toxic episode found it difficult to regain his usual cheerful demeanour. After several discussions he returned to duty and continued to serve well and cheerfully. Other soldiers, while taking atabrine, experience the loss of control of their thoughts and behavior as an extremely frightening experience and become fearful that they are "cracking up." The following case had the outward appearance of an acute anxiety state, and the pattern established was difficult to eradicate even though the soldier had been stable during a long period of combat.

CASE 17.—A 29-year-old sergeant with 3 years of service was sent to a general hospital from the combat zone because of recurrent attacks of tertian malaria. Physical examination revealed nothing aside from moderate weight loss and a palpable spleen. Malarial smears were negative but he was given atabrine in the hope that further treatment might prevent recurrences. He received 1.0 gm. in 24 hours and then 0.2 gm. t.i.d. for 4-1/3 days,

a total of 3.6 gm. in 6 days. He remained in good spirits and kept active about the hospital without any complaints until the night of the 5th day of treatment when he awoke with a nightmare, shook, and had difficulty in orientating himself. He complained that he could not think clearly and that his mind seemed blank. On the following morning he was seen in psychiatric consultation, and though he had collected himself, he had marked difficulty in concentration. He was unable to do simple arithmetic, recall simple historical facts or reverse four digits. Twenty-four hours later there was no longer evidence of intellectual impairment. He improved rapidly but continued to remain worried about himself despite repeated reassurance. Discussions failed to reveal evidence of neurotic traits and the family history was non-contributory. After several months in the hospital, the patient was not believed capable of further combat duty.

Sufficient examples have been given to illustrate the variety of the clinical pictures seen. The reactions may have a general resemblance to almost any type of psychiatric syndrome. No general pattern of reactivity can be singled out as pathognomonic, rather it is the presence of clouding of the sensorium, the confusion and the sudden onset, closely related in time to atabrine therapy, that leads to the diagnosis.

ETIOLOGY

Many problems remain unanswered concerning the etiology of the atabrine psychoses. It would appear as if certain individuals were particularly sensitive to the drug and reacted to relatively small quantities, whereas others became psychotic only when dosages likely to be toxic for a large proportion of patients were given. All malarial patients had received atabrine previously, at least in prophylactic amounts, which might raise the question of acquired sensitivity, but Case 7 that had been given the drug experimentally, had never taken the drug before. It is to be realized that although heavy dosage seems to produce mental reactions with greater frequency than conservative treatment, many thousands of patients received similar intensive therapy without suffering ill effects.

Serum atabrine levels were obtained on but 6 patients, and unfortunately could not be obtained upon the patients who suffered mental reactions after small doses of atabrine. The six levels obtained do not seem

to indicate that the serum atabrine offers an adequate explanation by itself. The levels were all relatively high, varying between 0.010 mgm.% and 0.025 mgm.%, heights not reached with prophylactic dosage. Levels above 0.015 mgm.% are infrequently reached on 2.1 gm. of atabrine given over 7 days. However, thousands of patients had similar or higher serum levels without becoming confused or psychotic. There is some evidence, which will be discussed in a subsequent paper, that markedly high levels are more apt to produce sensorial clouding than low levels are. Levels in the spinal fluid were not obtained and may prove more revealing. There appears to be a wide individual variation in the amount of drug that can be tolerated, whether this is due to differences in absorption from the gastro-intestinal tract, or differences in reactivity of the tissues, cannot be answered as yet.

The integration of the personality of the patient appears important in determining the nature of the psychotic reaction, although it may not have much to do with the production of the reaction. It is possible that the more stable individuals develop confusion and perhaps excitement, whereas less stable persons will show marked disturbances in mood and become delusional. The problem seems akin to that of the type of personality change which will occur when a person becomes paretic or senile. All of the patients had been sufficiently stable to have served through combat, and all but 6 had been in the Army more than 2 years. There had not been any previous psychotic episodes, though one case, as has been mentioned, gave indications of possibly psychotic behavior prior to the acute upset. History of emotional instability could be elicited from 18 patients: 1 had been markedly alcoholic; 7 had shown moderately severe neurotic traits in the past; others had been insecure, emotional, dependent, etc., beyond a degree anticipated in most soldiers. The circumstances rarely permitted the psychiatrists to obtain information concerning the patient's life prior to induction from sources other than the patient. As the personality structure appears to have colored the reaction, so also may it have affected the recovery. The presence of severe instability may have prolonged

the reaction beyond the period when the atabrine was affecting the cerebrum.

PROPHYLAXIS AND THERAPY

Most of the patients had received atabrine in the therapeutic amounts during prior attacks of malaria. It was not possible to learn just how much atabrine had been received in all cases, but in the cases in which the information was available it is known that no patient had ever received quite as much atabrine before. Some patients when questioned recalled that previous courses of treatment had caused some degree of confusion, or feelings of intoxication. It would serve to prevent psychotic reactions if patients were asked about their reactions to the drug before therapy is started. The evidence, even though not statistically conclusive, clearly indicates that the amount of atabrine given in a single course, and the rapidity with which it is given, should be limited. Toxic reactions are naturally to be anticipated no matter how the drug is administered, but a balance must be drawn between the benefits obtained by increasing the dosage and the hazards. The experience here does not permit a definite line to be drawn, but it is our impression that the administration of massive amounts is of doubtful benefit as far as the treatment of malaria is concerned, and the dangers of psychotic reactions definitely increased. Mental reactions may also be avoided in some cases if attention is given to complaints of the patient during the course of treatment. The appearance of alterations in behavior, complaints of intoxication, and sudden apprehension should lead to examination of the patient for evidence of confusion. Gradual administration of the drug allows for withdrawal immediately; whereas if atabrine is given in large doses at one time it may not be possible to abort the toxic reaction, as noted from the cases which became psychotic after 1.4 gm. were given within 24 hours.

The treatment in the hospitals on this island consisted in forcing fluids to promote excretion, sedation, psychotherapy and symptomatic treatment. Occasionally catharsis was utilized to evacuate atabrine which still remained in the gastro-intestinal tract. Sedation appeared extremely beneficial and never

seemed to aggravate the symptoms. Usually the patient was sedated sufficiently to keep him asleep or dozing for the first 2 days, after which he often awakened completely recovered. Psychotherapy was essential here because of the concern over insanity. Constant repeated reassurance was given and the situation was explained simply but carefully. Whenever it was possible the patients were retained on an open ward to avoid the trauma of being placed with patients who are obviously disturbed. Personality problems and situational factors were discussed as necessary, and throughout considerable attention was paid to the avoidance of neurotic residua.

SUMMARY

Twenty-eight cases of toxic psychosis during or following the therapeutic administration of atabrine are reported. Although the psychotic reactions occurred in less than 2 patients per 1000 treated with atabrine on this island, the number of mental reactions observed is believed the consequence of the heavy dosage frequently utilized in the treatment of malaria. Psychoses during treatment with 0.3 gm. daily for 7 days occurred rarely, for only 2 cases were seen, though large numbers of patient were treated in this manner. There appears to be a relationship between the frequency of psychotic reactions and the amount of atabrine and the rapidity with which it is given.

Two cases are reported in which the psychosis not only cleared after withdrawal of the drug, but recurred when atabrine was again given, and again cleared after cessation of therapy. Another case is cited of a subject who took the drug experimentally, never having had malaria, and became mildly psychotic. The 3 cases together indicate clearly that atabrine causes psychotic reactions, and that malarial fever and the release of malarial toxins need not be etiologic factors as has sometimes been hypothesized.

In most instances the psychosis appeared during, or immediately following, the course of treatment. In a few patients, who received very large amounts of atabrine over a short period of time, the onset was delayed and occurred a few days after the cessation of therapy.

Toxic psychoses are expected to clear

after removal of the toxic agent. Eight of the 28 patients failed to recover adequately but only 2 were observed for more than a month after the onset of the psychosis. It is probable that 2 reactions represented schizophrenic psychoses which had been precipitated by the illness or the therapy, although the possibility of the production of permanent damage by large amounts of atabrine cannot be excluded.

The clinical pictures observed varied widely, and resembled acute excitements of a manic or schizophrenic nature, severe depressive reactions, and paranoid schizophrenia. The presence of confusion, and particularly a sudden onset, with confused behavior and clouded sensorium, in a patient who had received atabrine distinguished the reactions from non-toxic psychoses. Rapid recovery after cessation of therapy usually helped confirm the diagnosis.

The occurrence of psychotic reactions was found to be the major limitation to the amount of atabrine which can be given safely, because of these reactions and because of complaints of mild confusion and the occurrence of convulsive seizures in other patients, very heavy dosage was abandoned by one hospital, after which atabrine psychoses again became a rarity.

Awareness of the possibility of atabrine psychosis should lead the physician to appreciate the importance of early signs, such as feelings of confusion and of intoxication. Such awareness will permit more prompt withdrawal of the drug and, in some instances, might prevent a frank psychosis. Prompt diagnosis is essential to proper therapy, both in the immediate stoppage of atabrine and in the handling of the psychotic reaction.

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II. CONVULSIONS

The report of 7 patients who suffered a convulsive seizure during oral atabrine therapy for malarial fever, like the preceding study of atabrine psychoses, combines the experiences of the neuropsychiatric sections of two general hospitals in the South Pacific. The hospitals were located on a non-malarious island on which a very large number of patients received unusually large amounts of atabrine in a brief time, and as was the case with the psychoses, the convulsions occurred predominantly during or following massive dosage; only 1 of the 7 patients had received conventional treatment of atabrine, 0.1 gm. t. i. d. for 6 days. It is believed that the report includes all of the cases which occurred on the island, as patients who suffered from convulsions during atabrine therapy were sent to the general hospitals for consideration of transfer for duty in non-malarious areas. The frequency of the occurrence of convulsions cannot be given accurately, but it is known to be far under 1 case per 2000 malarial attacks treated with atabrine on this island, despite the frequent utilization of heavy dosage of this drug.

Convulsions are known to occur as a manifestation of atabrine toxicity. In experimental animals fatal doses of atabrine produce acute excitement and convulsions, but according to Hecht(1) the amount required by oral administration is extremely high, 0.4 to 0.5 gm. per kilo of body weight in rabbits and cats. Convulsions in human subjects have been reported following the intramuscular injection of atabrine musonate. The usual dosage of the drug for adults was 0.375 gm., the equivalent of 0.3 gm. of atabrine dihydrochloride, given twice with an interval of 24 hours between injections. Several reports of convulsions are cited in Stitt(2), including the report of Siegenbeek, Van Heukelom and Overbeck of 2 cases that terminated fatally. In the literature available to the writers no reports, and no references to reports, of convulsions following the oral administration of atabrine could be found.

The essential data for the 7 cases are shown in the table below. The cases were very similar and will be handled as a group, to avoid repetition.

Each patient suffered a single convulsion either during the course of atabrine therapy or on the day following the completion of treatment. The individual was over the febrile stage of the attack and was feeling quite well when, without warning or aura,

TABLE
SUMMARY OF 7 CASES OF CONVULSION DURING ATABRINE THERAPY

Case No.	Age	Service (years)	Atabrine dosage		Serum atabrine		
			Duration (days)	Total amount (grams)	Day of convulsion (after onset of treatment)	Level (mgm. %)	Day
C1	27	2-8/12	6	1.8	7th	.....	...
C2	29	2-6/12	1	1.4	2nd	.....	...
C3	29	2-8/12	4	2.6	4th	.....	...
C4	32	2-8/12	7	3.8	8th	.....	...
C5	32	2-6/12	3	2.7	4th	0.018	5th
C6	33	1-7/12	4	3.3	4th	0.025*	4th
C7	25	2-6/12	5	3.9	5th	0.028†	4th

* Additional 0.6 gms. atabrine after serum level taken.

† Additional 1.2 gms. atabrine after serum level taken.

a convulsive seizure, with unconsciousness and ending in generalized clonic movements, occurred. Two or three patients bit their tongues but none suffered from incontinence. The convulsive movements were of brief duration; unconsciousness lasted from 5 to 15 minutes and was followed by a period of confusion which lasted for varying periods, but all patients were completely clear on the day following the attack when they were re-examined carefully. Immediately following the convulsion one patient showed some flaccidity of the right arm and leg, which disappeared rapidly, and one patient had transient nystagmus on lateral gaze. Neurological examinations on the day following

the seizures were completely negative in all cases. Aside from the serum atabrine levels which will be discussed below, the laboratory data were non-contributory except in one instance. Malarial smears were negative in all patients at the time of the convulsion; blood Kahn tests were negative; the blood counts were within normal limits; examinations of the spinal fluids, and X-rays of the skull obtained in a few cases were negative. In Case Cr, the glucose tolerance curve suggested that hypoglycemia may have been a factor in the production of the convulsion. The fasting blood sugar was 56 mgm.% on one occasion and the three hour level was 56 mgm.% on one test and 50 mgm.% on a retest. However, the patient had no symptoms suggestive of hypoglycemia, and had no recurrence of the convulsion in the ensuing 5 months during which he remained on duty on this island despite further attacks of malaria which were treated with quinine.

Six patients gave histories which were totally free from epileptic traits, and had neither petit mal attacks, migraine, nor anything which might be considered as epileptic equivalents. Case C4 had suffered a single convulsion at the age of 24, eight years prior to the seizure during atabrine therapy, and had subsequently had occasional attacks of momentary dizziness. The families of all the patients were free from epileptic characteristics.

Thus, one patient may have been epileptic as he had previously suffered from a convulsion, and one patient's convulsion may have been due to hypoglycemia, but the remaining 5 patients had nothing in their personal or family histories, in the physical examination, or the laboratory examinations which indicated the cause of the convulsion other than the coincidence with atabrine therapy. The case records are unrevealing aside from the data already given. A typical example is cited:

CASE C6.—A 33-year-old chaplain was admitted to a general hospital with a second recurrence of tertian malaria. The blood smear showed asexual vivax parasites. He was treated with atabrine 0.3 gm. t.i.d. for 3 days and on the morning of the 4th day of treatment his serum atabrine level was 0.025 mgm.%. He received 0.3 gm. t.i.d. on the 4th day of treatment, and had received a total of 3.3 gm. when on the evening of the 4th day, he suddenly had a severe generalized

convulsion. He remained unconscious for about five minutes, and remained somewhat confused for about an hour. Neurological examination was negative. There had been no tongue biting or incontinence. He was sedated and awoke on the following morning feeling entirely well, aside from muscular soreness. A thorough neurological examination was negative, and his intellectual resources were intact. Skull plates were normal. The past history and family history were both non-contributory. The patient is well-known to the hospital staff. He is an intelligent individual who was anxious to discover any abnormality that might be present, and the history is considered completely reliable.

The schedules of treatment which were used commonly on the island have been discussed in the preceding paper on the toxicity of atabrine. Very large groups of patients received conservative therapy which totalled 2.1 gm. or 2.8 gm. in 7 days; others received 3.8 gm., 4.5 gm., and 5.1 gm. in 6 or 7 days; while another large group received 1.4 gm. in divided doses over 24 hours, and the amount was sometimes repeated after an interval of 24 hours. One patient (Case Cr) suffered a convulsion on the day following completion of a course of atabrine, 0.1 gm. t. i. d. for 6 days, a total of 1.8 gm. This patient, it will be noted, was the one who may have suffered from hypoglycemia. The remaining 6 patients all received heavy dosage in some form. Case C2 had his seizure on the day following treatment with 1.4 gm. in 24 hours. Cases 3 and 4 had received 0.9 gm. of atabrine for 2 days and 0.4 gm. daily thereafter, and had received 2.6 gm. and 3.8 gm. respectively when the convulsion occurred. Case 5 had completed a course of 0.9 gm. given daily for 3 days and had the attack on the following day. Cases 6 and 7 had received 0.9 gm. daily for 3 days and thereafter 0.6 gm. daily, and had taken a total of 3.3 gm. and 3.9 gm. when therapy was halted because of the convulsion.

All the patients had received atabrine previously, at least in prophylactic dosage. Case C3 was receiving atabrine in therapeutic amounts for the first time. The precise amounts of atabrine that patients had received for previous attacks of malaria were not known completely. Several patients had received 0.3 gm. daily for 18 to 21 days without ill effect, and Case C4 had received identical treatment (3.8 gm. in 7 days) two months previously.

Serum atabrine levels were obtained on 3 of the 7 patients, but unfortunately never immediately following the convulsion, and thus are but indications which may be helpful if further data are collected. The levels were very high in all 3 patients, but not higher than has been found repeatedly in patients who showed no toxic symptoms from the drug. Case C5 had a level of 0.018 mgm.% on the morning following the convulsion; Case C6, a level of 0.025 mgm.% on the morning the convulsion occurred and had received an additional 0.6 gm. of atabrine prior to the convulsion; Case C7, a level of 0.028 mgm.% on the day preceding the convulsion and had received an additional 1.2 gm. before the convulsion. The lowest of the three levels is within a range which might conceivably be reached by a patient receiving 2.1 gm. in 7 days, but the higher two levels are probably never reached with conservative therapy. In all 3 cases in which levels were obtained, and in all cases except Case C1, it is possible that the serum atabrine level had reached a very high level for a short time, and that the convulsion was a direct result. If this were the case, tolerance must vary widely as many patients were seen who had high levels occasionally reaching 0.040 mgm.%. The few figures are certainly inconclusive, and are offered only for comparison with data which may be collected elsewhere. Serum levels obtained immediately following the convulsion, spinal fluid levels, and electroencephalographic readings on patients receiving heavy dosage of atabrine would be desirable.

The differential diagnosis from cerebral malaria is extremely important. An error in diagnosis may have very unfortunate consequences because of the risk of giving intramuscular atabrine to a patient who is already suffering from the toxic effects of this drug.

This group of cases was differentiated from cerebral malaria by the following facts: all the patients suffered from tertian malaria, their blood was free from parasites and they were afebrile when they had the convulsion.

SUMMARY

Seven cases are reported in which the patient suffered a generalized convulsion during or immediately following a course of atabrine administered orally for the treatment of tertian malaria. One patient had experienced a single convulsion 8 years before, and in one case the seizure may have been caused by hypoglycemia. In the remaining 5 cases no basis for the convulsion could be found in the patient's history or by the examinations which were carried out, other than the coincidence with atabrine therapy. It is known that atabrine, particularly in large doses, can be toxic to the human central nervous system as it produces psychoses; and animal experimentation and the reports of the intramuscular use of atabrine musonate have shown that toxicity can take the form of epileptiform seizures. It is therefore believed that the convulsions here reported were the result of atabrine toxicity. The occurrence of convulsions during atabrine therapy is extremely infrequent. Only one case is reported following conservative therapy, and despite the frequent usage of unusually large amounts of atabrine on the island, the 7 cases represent an incidence of far less than 1 case per 2000 malarial attacks treated with atabrine.

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PSYCHIATRY HAS GROWING PAINS

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The quick transition of adolescents into adults in wartime is a recognized fact both in and out of the Army. We see expansive, exuberant youths come into the Army with all their unbridled optimism and visionary attitudes. Then, after a series of buffeting and unsettling experiences, they become a little confused and disillusioned. Gradually they develop an appreciation of their strength and weaknesses, and supplant expansiveness and optimism with controlled confidence and judicial determination. Instead of a single-handed quixotic winning of the war, they adopt the more humble willingness to fight the war in cooperation with their fellowmen. They are willing to make full utilization of the hard gained experience of their elders. It is a painful procedure but soberly gratifying when completed. These are the growing pains of an adolescent, soon to become an adult.

It took a war to shorten the growing pain of psychiatry too. At the outbreak of this war, psychiatry, like the adolescent, was going to win the war singlehanded. By the use of its astounding and prolific discoveries concerning human behavior, it would be a simple matter to reject the unfit and vulnerable personalities at the induction stations. By further screening at training centers, other personalities who slipped through the first screening, would be quickly detected and discharged. We envisioned an Army in which insubordination, AWOL and indifference to duty would be an unknown problem. The increase in morale and fighting efficiency would be astounding. But that was not all, the dream was still better. We dreamed an Army wherein every man was assigned to duties that best suited him and his total personality. A man to fit the job, and a job to fit the man. It was all as simple as that. Like the adolescent, the problems of the war showed us our plans were heavily tainted with fantasy. Our great peacetime discoveries about human behavior, which were to be converted into ordnance of war, turned out to be pea-shooters disguised as elephant guns. Porter (1), probably half in jest and wholly in earnest, describes this sad condition in the following words:

For many years prior to this war, organized psychiatry quite complacently assured itself and the world that it had found the answers to all the problems of the individual and of society, that for any ill, personal or social, a psychiatrist should be consulted, and by his knowledge of the stars and their constellations, he would supply the formula of the remedy. A good many eminent psychiatrists believed this, or pretended to believe it, and the public as a whole had been propagandized to believe it. Then the war came, and with it the test of their ability to meet the immediately present crises. . . . We were too inflexible and our platform was covered by such a veneer of cheap paint, mislabeled Freudian, that the solid material of that great thinker was obscured. . . . We were totally unprepared to accept the validity of combat reactions as situational disorders and insisted that in all such reactions one must postulate of nipple dependency or father hostility or some other type of bunkum. Most psychiatrists were state hospital trained men and, as such, thought the world had only two classes of people, the crazy and the sane. The ultra, or as I call them, the real super-dupers, the fellows with the plush-lined offices, were the psychoneurotic witch hunters.

To illustrate the misinformation that was the basis of the psychiatric principles, we tried to put into practice, we have but to recall the days of a particular Circular which came into effect on the 5th of December 1942. At that time there were many individuals in the Army who were poorly constituted physically and mentally for military duty. These men were truly a burden to the Army program. The men were considered to be largely the accumulated errors of the induction boards. It was decided by the War Dept. Circular No. 395 to rid the Army of this chronic pool of medical, legal and military headaches. The psychiatrists gave a hearty nod of approval. At last, the War Department was becoming psychiatrically oriented. At last the dispensaries would be relieved of the chronic recurrent sick callers. At last the hospitals would have bed space for those soldiers who are "really sick." At last the line officers would be able to devote their talents to training receptive soldiers instead of spending a large percentage of their time dealing with dissenters, invalids and court martials. Through all this joy and enlightenment, there was only one cloud. Some old experienced officers raised a skepti-

cal eyebrow and muttered something about there will always be 10% of any group of people who are the lowest 10% in efficiency, motivation and ability, and being the lowest 10% they will always be dissatisfied, unable to compete and will show escape and rebellion in one form or another. Those officers were old, experienced yes, but old and definitely not psychiatrically oriented. These officers were so poorly oriented in our viewpoint and according to our well established psychiatric principles that they even went further and muttered something more to the effect that our efforts should be directed at training the line officers how to control and perhaps utilize this low poorly endowed 10%.

To a psychiatrist at that time this was the dustiest of all old wives tales. It is obviously more simple to get rid of the 10% non-effective personnel and then have a 100% efficient, apt and healthy Army. The problem of separating the non-effectives was tackled vigorously. In camps and stations all over the country, the poorly endowed were released. A thousand misfits were released, but there were 2000 more poorly motivated individuals in their place. They filled the dispensaries, casual sections, hospitals and guard houses. Two thousand were released and again there were thousands more who were found to be unstable and inadequate individuals. The dispensaries and hospitals were busier than ever. But surely, we thought, these men were just making the most flimsy of borderline adjustment to the Army and they are really vulnerable personalities too. So thousands more were discharged. The avalanche did not stop—it grew bigger and bigger—rumors were rampant that a soldier was a "sucker" to stay in the Army, men talked freely of building up an impressive record of sick call visits to indicate that they were non-effective soldiers. The rumor was passed about that discharge rates for the nation neared induction rates.

Morale in all organizations suffered and psychiatrists began to have consultations with soldiers who were known to be moderately well adjusted to military life a few months ago and suddenly began showing bona fide evidence of severe anxiety. After adequate trial it became apparent that there was a misconception in the psychiatric formula. There was some factor or factors in human behavior which were overlooked. Finally, in

November 1943 the ill-fated Circular of '42 was rescinded. Many psychiatrists have expressed the opinion that the era of this particular Circular was the darkest and most soul shaking for them. The concepts of psychiatry which they had held in absolute faith were beaten into a shambles.

This black period of disillusionment was followed by a period of confusion and disagreement for psychiatry. With some of the old tenets of psychiatry badly mauled and without new well founded psychiatric concepts to follow, there developed a host of conflicting interpretations and modes of action. The psychiatrist at one station was claiming a soldier who went AWOL while in an amnesic state, or while in an emotional panic was not responsible and was not court martialed, at another station the reverse was claimed. At one station a psychiatrist would recommend separation for all homosexual individuals, while at another station the psychiatrist would refuse to recommend separation for any homosexual individual. At one dispensary a physician, with the approval of the psychiatrist, would routinely refuse hospital admission to anxious and hysterical soldiers, at another dispensary the same type soldiers were routinely admitted to the hospital without so much as an appraisal. Psychiatry in this period was truly a ship without a rudder. At times it was even worse, it was a ship without a chart as well as without a rudder.

Concerning the psychiatric principles of classification and assignment of men there is no doubt that it is of enormous value in prevention of psychiatric casualties when properly applied. However, in a wartime Army there are not enough protected non-combatant assignments to take care of all the personalities who are essentially passive and dependent. There are not enough assignments or situations which permit sufficient latitude for those individuals of eccentric work habits and rigid personalities. In short there are just not enough individuals so constituted that they can readily accept the dirty duties of a combat soldier without developing conflicts and anxieties. It must be remembered that the natural law of supply and demand takes precedence in wartime over the psychiatric law of defending and developing the ego.

Gradually as a result of these experiences, there was a reevaluation of principles of psychiatry in almost every psychiatrist in the Army. New principles were evolved incorporating the rediscovered truths of many centuries ago and psychiatry began to leave the growing pains of adolescence behind. There appeared a new more thorough understanding of the etiology and treatment of psychiatric disorders and, probably still more important, an acute awareness of our limitations and of the unknown.

We learned that a strong motivating force as a basis and code for living is one of the greatest defenses against the development of psychiatric disorder. We learned that this motivating force transcends the destructive effect of bad environment and genealogy in many instances. We learned an individual is not the sum total of his genealogy and past performances, but that he is the sum total of these plus his present incentives.

These are strange words and ideas in psychiatry by prewar standards. However, Spiegel(2) is extremely unorthodox psychiatrically speaking, by prewar standards, when he describes "courage" as a factor in determining the behavior and emotional stability of an individual. Concerning this "X" factor or "courage" Spiegel has this to say:

In the most stable fighting men, this factor was not so prominent because of their innate ability to carry on no matter what happened. But in the average soldier, which most of them were, this factor attracted serious attention. Here was a critical, vulnerable and, to be precise, influenceable component that often decided whether or not a man would be overwhelmed by his fear, anxiety and fatigue. Here was a factor that often decided whether or not the man became a psychiatric casualty.

We learned that to prevent errors in our future concepts of the etiology and mechanisms of psychiatric disorders, we must have more control studies. Hastings, Wright and Glueck made control studies on 150 of flying personnel of the 8th Air Force who had successfully completed their tour of duty. They found that the present-day criteria for psychogenic determinants of disease were so common in this control group, that the ratio of difference between them and those individuals who became early psychiatric casualties was negligible. In the control cases family predisposition for disease existed in 48% and personal predisposition in 57%,

while in the psychiatric casualties the family predisposition to disease was 40% and personal predisposition was present in 60%.

We learned that the group has rights and privileges which must be protected and defended as well as the rights and interests of the individual psychiatric casualty. More specifically, we learned that a minor or moderate psychiatric casualty may have to be retained in the Army in a non-combatant zone against his personal best interest to protect the morale and best interest of another soldier who is called upon to subject himself to the more serious disadvantages, such as fatigue, exposure, battle wounds and possibly death.

We learned that pure psychiatric disorders, as well as attitudinal disorders, are contagious especially when secondary gains result. This fact received official recognition by the War Dept. in TB Med. 170 of June 1945.

We learned that there is a large group of individuals who have the latent potentialities of a psychiatric disorder and many who have actual psychiatric disorders who, within limits, can and do function satisfactorily under heavy stress so long as no escape from that stress is readily available.

We have learned that it is hard to renounce our old training and beliefs even though we have found some of them barren. We continue to hold on to the idea that we are still correct in all our original concepts of psychiatric disorders. We refuse to accept, for example, schizophrenia in the Army of two or three weeks' duration is the same schizophrenia we see in civilian life. We rationalize that because in civilian life the course of the disease is more chronic and delapidation of the personality is generally seen, it is not the same type illness. There are many men in psychiatry who are reluctant to renounce their offspring. It is a rare mother who recognizes the imbecility of her own seed.

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CLASSIFICATION AND REALLOCATION OF "EXHAUSTION" CASUALTIES IN A THEATRE OF WAR¹

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Experience reported here was gained as neuropsychiatrist attached to No. 3 Canadian Reallocation Centre in the months of August and September 1944 in Normandy and Belgium. Without going into detail about the organization it will be helpful to describe the functions of that unit in a general way. It was established to reboard casualties which after treatment were fit for duty in the theatre of war but not for combatant duty. It turned out that most cases fulfilling those requirements were psychiatric. The tendency was that men with wounds and physical illnesses either recovered and were returned to full duty or required long treatment and were returned to England. Thus of 934 medical boards done during the period mentioned, 836 were psychiatric. In passing it should be pointed out that groups of cases will be referred to which do not agree in numbers. The unit contained a medical board, a personnel selection section, and a psychiatrist. For various reasons all cases were not seen by all three branches of the unit. That is the reason for the discrepancies.

The cases came to the centre from medical units after treatment for their acute symptoms and from reinforcement units. Men sent to the centre from reinforcement units were new reinforcements who developed anxiety or demoralization when nearing the front or casualties who had been returned to the reinforcement stream after treatment, having been considered fit for full duties. The medical officers in their reinforcement battalions had large constantly changing populations under their care and problems had to be fairly obvious to come to their attention except when men took the initiative in asking for help or removal from drafts.

At this point I think it worth while digressing to point out something of the difficulty

in assessing the results of treatment in an army in action. A considerable but unknown proportion of cases discharged from neuropsychiatric units as fit for duty developed gross symptoms in the reinforcement battalions and were then sent to reallocation centre and down graded. The records of the neuropsychiatric hospitals and "exhaustion units" will show these as cases which made a complete recovery. Furthermore the impossibility of reckoning the correct psychiatric morbidity rate is demonstrated by the fact that considerable numbers of men who had recovered from minor wounds developed anxiety symptoms when about to be returned to their units, though such symptoms had presumably not been noticeable whilst they were in hospital under treatment for their wounds. There is no way of telling how many cases of exhaustion were prevented by wounds. With regard to the rates of recovery and recurrence amongst "exhaustion cases" treated by their own battalion medical officers and by advanced medical units it is difficult to form an opinion. Thirty-seven percent of exhaustion cases were being returned to their units from advanced medical units during one period according to a survey of field medical cards. Probably a larger number was treated by battalion medical officers and never shown as casualties. What the average service of these men with their battalions after treatment would be I don't know. It was common to find that many men had been treated for "exhaustion" with short periods of rest and then returned to duty several times before they were evacuated for treatment in neuropsychiatric units. Apparently the best treatment results were obtained when a man was not removed from the strength of his own unit. In the Canadian organization, during the period of this report at least, evacuation to a neuropsychiatric unit required that a man be struck off the strength of his unit. I think that the better success of treatment within the fighting unit as compared to treatment in the

¹ From a paper presented at a meeting of the North Pacific Society of Neurology and Psychiatry, September 22, 1945.

rear was due to the fact that men received so much support from their feeling of belonging to a unit. Furthermore amongst the men treated in the rear who did return to their units the desire to get back to their pals and units was the most commonly expressed motive.

The use of the term "exhaustion" may require some clarification. I think that the U. S. Army's term "combat fatigue" is used somewhat differently. All Canadian psychiatric casualties were evacuated from their units under the diagnosis of "exhaustion." When they were treated in a neuropsychiatric unit or boarded on psychiatric grounds the diagnosis was changed. Then they were classified as "recovered" or diagnosed according to constitutional predisposition or persisting symptoms. The overseas usage in connection with the term "psychopathic personality, inadequate type" should be familiar to Canadian physicians also. Considerations leading to that diagnosis in preference to psychoneurosis were: evacuation as ineffective after relatively slight strain, comparative freedom from symptoms whilst in hospital or in the rear areas with demoralization for return to combatant duties, personality traits of immaturity and history of comparative inadequacy in civilian life and during military training.

I did not see all the men psychiatrically boarded at No. 3 Canadian Reallocation Centre. Of the 836 psychiatric boards mentioned above which were done during the period under review I saw only 530. Those remaining were boarded on reports from psychiatrists in other units and did not seem to need any review. The frequency of various psychiatric diagnoses amongst the men I saw was as follows:

Psychopathic personality, inadequate.....	179
Psychopathic personality inadequate with mental retardation	64
Psychoneurosis	174
Exhaustion (the diagnosis being left unchanged pending a further trial in an employment company)	40
Mental retardation	7
Epilepsy	2
Alcoholic addiction	1
Not yet diagnosed.....	6
No appreciable disease.....	57
	530

(In the circumstances under which we were working it was not practicable to check

the 300 cases I did not see, but there is no reason to think that those I saw were not in all ways representative of the whole group.)

It is noticeable that epilepsy and psychosis were very infrequent. The cases in which diagnosis was not established were sent to the neuropsychiatric wing of a general hospital for diagnosis and disposal; one was definitely psychotic and two were probably prepsychotic. There were no real mental defectives. Although constitutional inadequacy contributed largely to the numbers of casualties it was noticeable that men so diagnosed were more adaptable and of more robust personalities than similar cases seen in England during training. That distinction is based on histories obviously. Judged by symptoms, effectiveness of and response to treatment, they were proving to be inadequate. However it was a severe test and often there would be circumstances that had placed an extra burden on the men who broke down. Frequently they would be men who for some reason hadn't developed a sense of belonging to a unit or technical pride in their trade of soldiering though their histories would suggest that they had been fairly adequate in civilian employment and fairly mature in personal relationships. In A. E. Housman's terminology, they had not become one with their comrades who would have "learned (them) the way to behave and showed (them) (their) business of dying." In Eugen Kahn's stratification of personality the defect in these cases would be on the level of character. The R. A. F. described similar cases as "lack of moral fibre" and dealt with them by administrative means. It was very noticeable that either because of peculiarities in their own personalities or because of accidents such as strangeness in a new unit, recent transfer from one type of duty to another, or preoccupation with personal problems, they were often men who were deprived of the support of unit tradition and well-knit comradeship. Quite often they were men who lacked Canadian or British tradition. Thinking of these cases inevitably brings us to face the question, what does enable an average person to endure the stresses of warfare. Looking ahead the challenge is to learn more about the promotion of good mental health.

Incidentally the diagnoses listed above in-

dicate that selection had been well carried out. A screening that eliminates practically all psychotics, defectives, epileptics, and obvious psychopaths, is functioning well. It is doubtful if more accurate criteria than these for the effectiveness of selection could be devised.

Of the 530 cases referred to above only 69 were returned to full duty. Short as was the period of this review, 2 of these had already reached 3 Canadian reallocation centres a second time. Eighty-two "exhaustion" cases were reviewed after periods of more than a month in an employment company in the lines of communication area. The results were:

Down graded	67
Returned to duty.....	11
Sent to hospital.....	1
Further deferment	3

Discouraging as the results of psychiatric treatment rear of forward areas is the economy of man-power possible through proper reallocation of psychiatric casualties is great. Of 972 cases administratively dealt with by 3 C.R.C. only 2 were returned to the United Kingdom for neuropsychiatric reasons, 102 were returned for non-psychiatric medical reasons, 9 because of age. Seventy-two percent of the remainder were reallocated to the establishments of units working in the lines of communication or returned to combatant duty. Twenty-seven percent were retained in employment companies which did some useful work and provided a pool whence further numbers could be drawn for lines of communication duties. A further small number of men was returned to United Kingdom from the neuropsychiatric wing which was attached to a general hospital, without boarding; but of their first 200 cases there were only 8 of these.

SUMMARY AND CONCLUSION

Almost all the psychiatric battle casualties could be retained in a theatre of war performing useful duties. The proportion returned to combatant duties after brief treatment in forward areas without being severed from their units was encouraging but return to combatant duty after treatment in neuropsychiatric units was possible in only a small proportion of cases. "Exhaustion" accounted

for about 10 percent of battle casualties, exclusive of killed and missing. Relief of severe symptoms was comparatively easily obtained and men continued to be capable of performing duties in the rear without excessive sickness or crime rates but anxiety was stirred up by prospect of return to action—or briefly by incidental enemy air activity. There was little reason to expect that much improvement in rates of psychiatric battle casualties could have been brought about either by selection or treatment. It was obvious in case after case that childhood insecurity was the outstanding cause of predisposition and amelioration of much of this insecurity should have been possible. An editorial in the B.M.J. of March 7, 1942 concludes: "The last war emphasized the importance of mental conflict; this war has on the whole emphasized the importance of predisposition and especially of constitutional predisposition. One of the tasks of the future is to discover means of detecting this in a much higher proportion of cases than is possible now." However, it seems that by 1944 in the Canadian Army selection had been carried as far as it could be without being wasteful. Because of that observation and because of opinions developed after examination of a large number of individual soldiers my conclusion would be that the task of the future would be to reduce the amount of this constitutional predisposition. I think that current usage of the term constitution does not imply that it can be modified only by eugenics. I think that better socialization and better attention to individual mental hygiene provide the answer. A study of all possible experiences during the war could teach us a great deal about how individuals could be more adequately socialized. Ronald Fairbairn concluded one of the best articles I have seen about war neuroses (B. J. M., Feb. 13, 1943) with indications of his discouragement in efforts to deal with separation anxiety en masse, and the statement—"What these people really need is not a psychotherapist but an evangelist." Although in peace time more deliberate and individualized methods of bringing about the identification of persons with society should be more efficient than evangelism, its appeal implies useful clues.

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MARIHUANA AND AGGRESSIVE CRIME ¹

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AND

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The effects of marihuana intoxication and addiction have received continued notice in medical literature in this country since 1931. Recently, the tempo of the discussion and controversy regarding the socially deleterious effects of the drug has increased. The physical, psychopathological, social and criminological connotations of marihuana usage have been adequately described (1, 2, 3, 4, 5, 6). The most controversial point at this time relates to the influence of marihuana on the antisocial impulses of its users and its influence on crime causation. The older and recent literature differ on this issue, depending on the area of observation, toxicity of the drug (hashish, ganja or marihuana), and the specific social psychology of the users. For example, Dr. J. Bouquet, an eminent Tunisian author finds that cannabis has most serious consequences, resulting in a propensity for theft and crime (3). Stanley (2) found a high percentage of marihuana addicts among criminals in New Orleans. A recent article by Marcovitz and Myers(7) describing delinquents in the U. S. Army was utilized by the editorial writer of the Journal of the American Medical Association to contradict the conclusions of the New York City Mayor's Committee on Marihuana (9). Bowman (10), a member of this committee, replied to these criticisms and defended the findings of the committee. Observers in India (11) indicate a frequent relation between the use of hemp and crime. On the other hand, the senior author, in a study of major crime in New York City over a period of six years (1932 to 1937 inclusive)(6), found marihuana users to constitute but .004% of all offenders convicted of felonies. Of the total of 16,000 felons examined, 67 were marihuana users: among these only 16 cases of serious assault occurred. Similarly, the report of the New York City

Mayor's Committee on Marihuana stated that there was no specific relation between marihuana and crime.

In an attempt to shed light on this problem, the frequency of marihuana usage among naval and marine prisoners at the U. S. Naval Prison, Portsmouth, New Hampshire, was studied. The results are set forth below. As in the U. S. Army, all men inducted or enlisted into the Naval Reserve or Marine Corps were screened by psychiatrists with varying degrees of efficiency before active duty, and proven drug addicts, psychopathic personalities, felons, or obviously mentally sick individuals were presumably screened out. Therefore, the total number of marihuana users convicted of offenses while in the naval service can be expected to be less than within the general population. Convicted offenders are sentenced to the Naval Prison for both military and civilian type offenses, the former being in the majority because of the relative lack of opportunity for contacts with civilian life while on active duty.

Of a total number of 8,280 consecutive admissions of convicted offenders between January 1, 1943 and July 1, 1945, 40 or .0048% were determined to be users of the drug.

Of this group of 40 the Naval offenses were:

TABLE I

AWOL or AOL.....	32
Assault or striking an officer.....	3
Theft	3
Narcotics charge	2

and the previous civilian offenses were:

TABLE II

Assault	3
Theft	3
Violation of Mann Act.....	1
Gambling and narcotics charge...	1
Drunkenness	1
Draft dodging	1
Traffic violations	3
None	28

¹ The opinions or assertions contained herein are the private ones of the writers and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large. Approved for publication, Office of Public Information, U. S. Navy.

Of the 40 users, 23 were users to excess, 10 were moderate users, and 7 were light users. Only 2 gave a history of being more aggressive while under the influence of marihuana.

The color proportion was 31 negroes, 8 whites and 1 Mexican.

The diagnosis and degrees of usage were as follows:

TABLE III

	Degree of use			
	Total	Heavy	Moderate	Light
Psychopathic personality				
Aggressive (antisocial).....	2	2	..	..
Inadequate (asocial).....	25	17	6	2
Schizoid personality	2	1	1	..
Pathologic sexuality	1	..	1	..
Mental defective	2	2	..	..
Emotionally immature	6	1	2	3
Normal	2	..	..	2
	40	23	10	7

For contrast, several random samples of an equal number of non-marihuana users were analyzed. The mean naval offenses of these groups were:

TABLE IV

AWOL or AOL.....	25
Theft	5
Assault	2
Drunk and neglect of duty.....	2
Forgery and fraud.....	1
Carnally knowing a female.....	1
Disobedience to a superior officer..	3
Opening a letter in the mail.....	1

and the mean previous civilian offenses were:

TABLE V

Grand larceny	1
Breaking and entering.....	1
Theft	3
Disorderly conduct	1
Traffic violation	1
Drunkenness	2
None	31

The color distribution of this group was 36 whites and 4 negroes.

The diagnoses were:

TABLE VI

Psychopathic personalities	
Aggressive (antisocial)	4
Inadequate (asocial)	10
Mental defectives	1
Emotionally immature	12
Normal	13

DISCUSSION

As previously mentioned, only 2 of the 40 users gave any history of being more aggressive under the influence of marihuana, and there is a suspicion that these claims may have been mere rationalizations. One of these—a repeated offender—was a moderate user and only his present offense had occurred under the influence of the drug. Comparison of Tables I and IV shows the non-user group to have committed more aggressive crime—11 (theft, assault, forgery, disobedience of orders of superior officer)—than the users—6 (assault, theft). Conversely, the negative offenses predominate in the user group—32 (AWOL or AOL offenses) to 25 in the non-users.

A contrast of Tables III and VI shows a preponderance of psychiatric disorders in the user group over the non-users. The aggressive psychopath is the only disorder to predominate in the non-user group. It can be said, then, that marihuana addiction is but a symptom of some personality abnormality or mental disorder. Furthermore, the type of personality most likely to take to marihuana is the passive, inadequate and insecure one who is unable to face reality and its concomitant frustrations. Marihuana serves to allay their anxiety and to circumvent reality by indulgence in semi-mystical fantasies; it is an escape from and not an attack upon the hostile outward world. This formulation is true for our culture; whether this can be extended to such radically different cultures as Indian and Arabian requires careful comparisons of all sociopsychological factors.

CONCLUSIONS

1. There is no positive relationship between aggressive crime and marihuana usage in the Naval service (Tables I and IV).

2. Similarly, there is no significant causal relationship between aggressive crime in civilian life (of the naval offenders studied) and the use of marihuana (Tables II and V).

3. Marihuana usage is but an aspect of some type of mental disorder or personality abnormality (Table III).

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REVIEW OF PSYCHIATRIC PROGRESS IN SOUTH AMERICA DURING 1944

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BRAZIL

Colonel Florêncio de Abreu published a careful study on "Military Mental Selection," reviewing all tests commonly used by the Brazilian Army in the choice of selectees belonging to the Expeditionary Forces. He insisted specially on changes proposed by Prof. Ombredane, formerly professor of psychology in the School of Superior Studies in Paris, and presently teaching in the Faculty of Philosophy in Rio de Janeiro.

Prof. Austregesilo (A.) dealt with the problem of neuroviroses, designation preferred by the author to epidemic or lethargic encephalitis; he studied several clinical forms registered in Brazil, dwelling particularly on acute and sub-acute forms many of which are usually followed by psychic disorders. Almeida Prado (J. N.) presented an accurate work on Claude's psychogenic encephalitis pointing out in a number of cases the existence of several clinical forms of different origins.

Yahn (Mario) and Reis (João Baptista dos) studying the spinal fluid in regular and pathological coma during insulin therapy (Sakel's technique) states the following conclusions in pathological coma: (1) frequency of microscopical accidental hemorrhage during puncture; (2) moderate hypertension, referred by the authors to venous stasis, but less accentuated than in regular coma; (3) hyperglycorrhachia running correspondingly to hyperglycemia, already well-known by those in the habit of treating with insulin; (4) cytologic changes which are the fundamentals in their findings. They report a very frequent granulo-cytorrhachia without hypercytosis.

Barreto (A. C.) furnishes the results of 100 cases of pre-frontal leucotomy practised following Egas Moniz' technique, showing the minor risk for the patient and the rarity of complications. He reported 24 per cent of either complete remissions or clear improvement of the operated patients, most of

whom were schizophrenics, in whom other therapeutic measures had failed.

Souza (Flávio de) made a study of the nature of the shock produced by cardiazol, the circulatory rate and the latent period of the crisis, reaching to the conclusion that cardiazol provokes a metabolic change and the formation of a substance exciting the epileptogenous centres (stimulin).

Aguiar Whitaker (E. de) published a detailed study on the pathology and treatment of anxiety calling attention to the use of magnesium hyposulphite intravenously as a very effective therapy in such cases.

Oliveira Bastos (Fernando) and Arruda (Joy) made a previous statement on narco-analysis, according to J. Stephen Horsley's technique; the authors point out the interest and usefulness of the method, because of reducing analytic work and speeding up treatment.

Cavalcanti Borges (J. C.) made researches on character with the help of the Woodworth-Mathews questionnaire, modified by Heyer. Material of study: 617 youth of both sexes, Cavalcanti noticed a more balanced character in subjects of the masculine sex, who revealed only tendencies of paranoia. On the other hand, the feminine sex showed a less well integrated character with four types of tendencies: simple emotivity, schizoid, depressive and instability.

Mendonça Uchôa (D. de) studied the psychopathology of incest, classifying the delinquents in two large groups:

(a) Mental patients, specially oligophrenic, senile, alcoholic and psychopathic personalities,

(b) Weaklings, super-intolerants and without typical mental disorders.

Pacheco e Silva (A. C.), Bastos (F. O.) and Cardo (A.) published an interesting report on an extremely rare case of spinocerebellar degeneration in twin brothers. The authors insist on the unitary conception in degenerative disease of the nervous system.

ARGENTINA

Brandan (Caraffa C.) reviewed allergy and the nervous system in several aspects of the problem, stating the existence of two primordial factors accounting for the respective pathology:

Belbey (José) discussed schizophrenia from a clinical and medico-legal point of view, establishing distinction between schizophrenia and dementia praecox and considering both in the light of the Argentine Civil and Penal Codes.

Cia (F. M.) pointed out in three original reports that mental disease can be considered in certain specified cases a very valuable help to justice.

Ciaffardo (R.) and Vizcarra (J. C.) made an etio-pathogenic study on suicide pointing out the following measures: (1) development of adequate action to neutralize the influence of social causes; (2) establishment of appropriate organizations to remove harmful elements from society; (3) organization of patronage and social service institutions able to check on the surroundings, the action of abnormal individuals, who, because of peculiar circumstances, have to remain free.

Raffaelli (A. J.) made a report on sexual inversion in minors of masculine sex. The author considers the problem a very serious medico-social question, for during the period of 6 years, while working in Buenos Ayres reformatories he had occasion to verify signs of homosexuality in 98 per cent of the hospitalized.

Belbey (José), Obiglio and Fernandez Saralegui discussed the problem of medical responsibility in convulsion therapy, considering it to be advisable to obtain the patient's or his legal representatives' consent, before applying the above mentioned treatments.

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Gutierrez Noriega (Carlos) published a very interesting study on the physiological interpretation of the convulsive action of cardiazol in decerebrate dogs. His conclusion was that the intensity of the convulsion decreases as sections of the neuraxis are

made generally in the encephalic trunk, while the clonic are specially produced by the superior nuclei.

Valeja (J. F.) wrote an exhaustive work on pellagra, reported in his country, declaring that lack of nicotinic acid, more than other avitaminoses, offers a larger causal relationship with mental disorders.

Cervantes, his work and contributions to psychology and psychiatry was the subject of a well-documented essay by Gutierrez Noriega (Carlos).

Sal y Rosas (Frederico) studied the variations shown by the convulsion borderline in different races in Peru, noticing contrasts between sea and country inhabitants.

CHILE

Beca (M. F.) made a critical review of the philosophic projections of psychoanalysis, summarizing a series of theories and emphasizing original and interesting conclusions.

Brücher Eucina (E.) discusses the psychotic episodes in psychopathic personalities pointing out that in many of the cases, an adequate readjustment and control of behaviour would allow them an acceptable living.

Murillo (R.) studied the psychopathology in drug addicts stating that it is not sufficient to remove the drug from these patients but it is also necessary to change their personality frame, creating new environments not only externally but internally as well.

Vivado (A.) analyzes the prognosis of schizophrenia pointing out the difficulties and the many causes of error, very common specially in the incipient forms.

COLOMBIA

Llhinós (P. A.) refers to the influence of the decreased antitoxic power of the liver in cases like a double homicide in state of aggressive drunkenness, which he reports.

A carefully organized book on legal medicine and psychiatry, in which judicial cases are studied on the light of Colombian legislation, has been published by Uribe Cualla (G.).

AWARDS AND CITATIONS

In the November 1945 issue of the JOURNAL was printed a list of awards and citations received by army neuropsychiatrists, representing compilation to that date.

CITATION FOR DISTINGUISHED SERVICE MEDAL

BRIGADIER GENERAL WILLIAM C. MENNINGER distinguished himself from December 1943 to November 1945, as Chief Consultant and Director of the Neuropsychiatry Consultants Division in the Office of The Surgeon General. He had the primary responsibility for solving one of the most serious medical problems faced by the Army. Overcoming great obstacles, he developed and put into effect a treatment plan for neuropsychiatric cases. This program of unprecedented scope resulted in restoring many thousands of mentally sick men to health and usefulness.

MAJOR IVAN BERLIEN, Medical Corps, Army of the United States. LEGION OF MERIT. Distinguished himself in the performance of outstanding service in the Neuropsychiatry Consultants Division, Office of The Surgeon General, from 28 January 1944 to 20 July 1945. Major Berlien brought to his assignment a long and varied experience in the field of psychiatry. Skillfully applying his knowledge and unusual clinical ability, he effectively discharged his responsibility for the assignment and reassignment of all neuropsychiatric personnel. His correct placement of this personnel was a prime factor in the achievement of the mission of the Neuropsychiatry Division. He established a physical examination standard for nervous disorders which was used by induction boards and formulated policies to deal with psychiatric problems in the Army's correctional institutions. He maintained effective liaison between the Office of The Surgeon General and the Correction Division and accomplished numerous other important missions for the betterment of psychiatry in the Army. Major Berlien at all times displayed an unswerving devotion to duty and his achievements reflect highest credit upon himself and the military service.

LIEUTENANT COLONEL WILFRED BLOOMBERG, Medical Corps, Army of the United States. LEGION OF MERIT. Performed exceptionally meritorious service as psychological examiner and consultant in neuropsychiatry, Office of the Surgeon, First Service Command, from July 1942 to August 1945. Lieutenant Colonel Bloomberg, by his professional knowledge and loyal devotion to duty, was responsible for the establishment of psychiatric methods and standards of induction which became the model for the entire country. His outstanding ability, broad experience, and sound judgment were almost entirely responsible for the high level of psychiatric treatment maintained in the hospitals of this com-

A second list has now been received from the Division of Neuropsychiatry, Office of the Surgeon General and is submitted herewith.

mand. His wise counsel was instrumental in restoring to duty or returning to useful civilian life the majority of psychiatric casualties treated in these hospitals and materially aided the nation's war effort.

LIEUTENANT COLONEL NORMAN Q. BRILL, Medical Corps, Army of the United States. LEGION OF MERIT. While serving in various capacities in the Neuropsychiatry Consultants Division, Office of The Surgeon General, from March 1944 to October 1945, distinguished himself through the performance of outstanding service. Lieutenant Colonel Brill was a prime figure in organizing the treatment program for psychiatric patients in convalescent hospitals, one of the notable therapeutic achievements of the Medical Department in this war. As chief of the psychiatric branch, he directed the development of the psychiatric centers in all general hospitals. Through superior professional ability, excellent planning, and broad experience he initiated numerous significant and highly important policy changes with regard to the salvage of manpower, management of psychiatric casualties, and dispositional procedures. His unusual judgment of relative values, keen perspicacity, and untiring devotion to duty contributed materially to the achievements of the Neuropsychiatry Consultants Division, reflecting great credit upon himself and the Medical Department.

MAJOR BENJAMIN COHEN, Medical Corps, Army of the United States. CERTIFICATE OF MERIT. For meritorious service in connection with operations as psychiatrist at the 10th Reinforcement Depot, from 15 December 1943 to 28 August 1944, and as psychiatrist at the 19th Reinforcement Depot from 26 March 1945, to 7 May 1945. As neuropsychiatric consultant in the GFRC he materially assisted in the development of a set of realistic policies and procedures whose objects were to prevent any unavoidable loss of manpower for neuropsychiatric reasons. His realistic viewpoint, ability, energy and indefatigable devotion to duty have been of great value in the approach to the difficult problem of obtaining the maximum efficient utilization of all manpower available for assignment by the Ground Force Reinforcement Command.

COLONEL FRANKLIN G. EBAUGH, Medical Corps, Army of the United States. LEGION OF MERIT. As neuropsychiatric consultant, Eighth Service Command, from August 1942 to June 1945, organized the psychiatric services in the various general and regional hospitals bringing them up to and maintaining them at a high degree of efficiency. Colonel

Ebaugh also developed an outstanding medical educational program which coordinated the neuropsychiatric field with the other phases of medical services.

COLONEL THEODORE C. C. FONG, Medical Corps, Army of the United States. **LEGION OF MERIT.** Rendered distinguished service as chief, Darnall General Hospital, Kentucky, from July 1942 to October 1945. His exceptional background, tact and outstanding professional, administrative and teaching abilities facilitated materially the high standard of care afforded the neuropsychiatric patients and the difficult task of alleviating the fears and anxieties of their families.

MAJOR WILLIAM FURST, Medical Corps, Headquarters 75th Infantry Division. **BRONZE STAR MEDAL.** For meritorious service in connection with military operations against the enemy from 24 December 1944 to 30 April 1945, in Belgium, France, Holland and Germany. Major Furst displayed marked ability serving as division neuropsychiatrist both during and after the initial commitment of the 75th Infantry Division to combat. He worked hard and diligently, night and day. Through his efforts eighty per cent of all combat fatigue cases were returned to duty. This is a record for which he can be justly proud. During January when the clearing station handled over three thousand cases he cheerfully assisted in other medical work in addition to his own. This officer's splendid work is reflected in the excellent mental health of the 75th Infantry Division. The devotion to duty and untiring efforts of Major Furst are worthy of highest praise as they reflect great credit upon himself and the Medical Corps.

MAJOR SAUL GREIZMAN, Medical Corps, United States Army. **FIRST BRONZE OAK LEAF CLUSTERS TO THE BRONZE STAR.** For meritorious achievement in connection with military operations against the enemy at Luzon, Philippine Islands, from 1 June 1945 to 2 September 1945. Major Greizman carried out his duties with skill and efficiency. His attention to the task of maintaining the health and manpower of the division is attested to by the excellent record of the combat units on Luzon and their low incidence of neuropsychiatric casualties. Men considered unfit for front line duty were not lost to the division's total fighting strength due to Major Greizman's untiring efforts to reassign them to duties where their abilities could be of great use and their mental health unimpaired. In addition to his regular duty, Major Greizman voluntarily acted as a ward officer in the clearing station throughout the division's stay in the Cagayan Valley, and took upon himself extra tasks of medical care and treatment.

MAJOR SAUL GREIZMAN, Medical Corps, United States Army. **BRONZE STAR MEDAL.** For meritorious achievement in connection with military operations against the enemy at Bougainville, Solomon Islands, and Luzon, Philippine Islands, from 15 August 1944 to 1 June 1945. On Bougainville, Major Greizman made a brilliant record in preventive neuropsychiatric medicine. He alone conceived and executed a vast plan for screening troops of the

37th Division with reference to the incidence of neuropsychiatric non-effectiveness and he also instituted a program of neuropsychiatric orientation for line officers in the Infantry. The results of this program was a spectacular decrease in the number of neuropsychiatric non-effectiveness in the 37th Division during the Luzon Campaign. On Luzon, Major Greizman voluntarily doubled his work by assuming the assignment of medical officer in a clearing company. Major Greizman was a soldier, a doctor with fine judgment and clinical skill, and a medical specialist with a wide understanding of the needs of the military service.

CAPTAIN SAUL GREIZMAN, Medical Corps, United States Army. **THE LEGION OF MERIT AWARD.** For exceptionally meritorious conduct in the performance of outstanding services in the Solomon Islands from 22 July 1943 to 7 April 1944. In addition to his extremely creditable performance of duty in the ordinary functions of a medical officer, Captain Greizman developed on his own initiative and took personal charge of a neuropsychiatric service for his division. In this capacity, he was responsible for the unusually low percentage of "war neurosis" casualties evacuated during the New Georgia and Bougainville campaigns. His patience, sympathetic understanding and professional skill resulted in the rehabilitation and return to duty of many soldiers who otherwise would have had to be evacuated. Captain Greizman's activities in this phase of medicine were outstanding, not only for the extremely valuable services he performed himself but because he inspired a greater concept of the importance of properly solving neurosis problems. His contributions to effective medical treatment were of inestimable value to the division with which he served.

LIEUTENANT COLONEL ROY R. GRINKER, Medical Corps. **LEGION OF MERIT.** For exceptionally meritorious conduct in the performance of outstanding services. As neuropsychiatrist on the staff of the Air Surgeon, Northwest African Air Forces, from December 1942 to July 1943, this officer, by his sound scientific knowledge, thorough understanding of the problems of fatigue and neuroses in combat crews and practical handling of these cases, returned the maximum number to duty. He acted as consultant in neuropsychiatry to the entire command in North Africa and so organized the neuropsychiatric service as to render expert medical care to this class of cases during all phases of the operations in North Africa.

MAJOR MANFRED GUTTMACHER, Medical Corps, Army of the United States. **LEGION OF MERIT.** As Supervisor, Neuropsychiatry Consultants Division, Office of The Surgeon General, from 28 August 1944 to 29 November 1945, rendered services of great value in preventive psychiatry and in the salvage of manpower. The success of the Army's psychiatric work program reflected his outstanding professional skill, clinical ability and sound judgment.

LIEUTENANT COLONEL MOSES R. KAUFMAN, M. C., United States Army. **BRONZE STAR MEDAL.** For the performance of meritorious service as

neuropsychiatric consultant for the United States Army Forces in the South Pacific area, from 2 October 1943 to 13 June 1944. His services were particularly distinguished in planning for the treatment of neuropsychiatric casualties in the combat zone during the Bougainville campaign in the Solomon Islands. By his untiring effort and superior professional knowledge, he was able to return a high percentage of the men to duty. He displayed ability of the highest order in making neuropsychiatric surveys of the various divisions in this theatre and giving advice to the commanders.

MAJOR MATTHEW LEVINE, Medical Corps, United States Army. BRONZE STAR MEDAL. While on duty on the Army Hospital Ship "Emily H. M. Weder," from August 1944 to March 1945, demonstrated outstanding professional qualities in support of combat operations. During the invasion of Southern France, in the Italian Combat Zone, and later during the landings on Leyte and Luzon in the Philippines, this hospital ship participated in the evacuation of wounded from the established beachheads. Aware of the many problems arising from such an important mission, Major Levine without regard for his personal welfare and with an all consuming zeal for rendering all service possible to our wounded, skillfully organized the personnel of the neuropsychiatric service into a highly efficient unit, inspiring them with confidence in the mission to be performed. His sole aim was to save lives and to bring comfort to the sick and wounded transported aboard the ship. He succeeded in this purpose by utilizing every available means of medical skill and knowledge. Major Levine's treatment of mentally disturbed patients by neuropsychiatric therapy contributed notably to the successful mission of this ship and reflects great credit to the Medical Corps.

LIEUTENANT COLONEL LAWRENCE P. ROBERTS, Medical Corps, 114th Station Hospital. LEGION OF MERIT. For exceptionally meritorious conduct in the performance of outstanding services in North Africa and Italy from 1 July 1943 to 8 May 1945. As a pioneer in war psychiatry in the Mediterranean Theater of Operations, Lieutenant Colonel Roberts made a contribution of great value to the Allied war effort. When the 43rd Station Hospital was converted exclusively to a neuropsychiatric hospital in July 1943, Lieutenant Colonel Roberts ably reorganized and retrained the nursing and enlisted personnel for performance of the organization's new functions. Upon his transfer with the neuropsychiatric staff of the 43rd Station Hospital to the 114th Station Hospital in December 1943, he retrained an even larger nursing and enlisted staff to produce a smoothly functioning 1000 bed neuropsychiatric hospital. In addition, he organized and directed a school of military neuropsychiatry for British nurses and a similar school for American medical officers. His sound policies in the care, treatment and handling of neuropsychiatric casualties helped form the basis of both theater and War Department policy regarding the handling and disposition of these cases. As president of the Re-classification Board, he personally interviewed every

patient reclassified for the Zone of Interior from units in which he functioned. As a forceful teacher and organizer of personnel necessary for the proper care and treatment of psychiatric patients, and as a psychiatric consultant who was of great value to the Army in the salvaging of men, Lieutenant Colonel Roberts rendered services which reflect great credit upon himself and the Army Medical Corps.

MAJOR (then CAPTAIN) LESTER SEGAL, Medical Corps, United States Army. BRONZE STAR MEDAL. For meritorious achievement in connection with military operations against the enemy in Papua from 1 November 1942 to 25 November 1942. Major Segal engaged in a number of long, exhausting marches over mountainous, jungle terrain, to serve troops on patrol. Although himself ill, he refused the advice of other medical officers to undergo treatment, feeling that his services were needed. During the period he operated an aid station near Sanananda at a point only a few hundred yards from the scene of the fighting, and rendered invaluable service to those wounded brought him. He persisted at his duties without thought for his worsening condition until ordered by a superior to accept hospitalization. Major Segal's outstanding devotion to his duty reflects great credit on him and on the military service.

Major Segal also received the Purple Heart Award.

MAJOR SAUL STEINBERG, Medical Corps, U. S. Army. CERTIFICATE OF MERIT. For meritorious service in connection with military operations from 10 June 1944 to 28 May 1945. By virtue of his professional skill, sound judgment, and tireless efforts he supervised the diagnosis, treatment and disposition of 1,026 neuropsychiatric patients between the dates of 10 June 1944, and 28 May 1945, and between the same dates saw 822 patients in consultation. The high calibre of his work was soon evident and he was designated as Consultant in Neuropsychiatry for the 802D Hospital Center on 1 December 1944, a job which he fulfilled in a superior manner.

MAJOR JOHN M. USOW, Medical Corps. BRONZE STAR MEDAL. For meritorious achievement in connection with military operations in the Mediterranean Theater from 1 December 1942 to 8 May 1945. As one of the pioneer neuropsychiatrists in the Mediterranean Theater of Operations, Major Usow personally treated a majority of the psychiatric casualties evacuated from the Tunisian front, most of whom were returned to useful duty in the theater, and in addition was responsible for the establishment of the first medical board for the disposition of such patients. By his great energy and superior professional ability, Major Usow was responsible personally for the return to duty in the theater of hundreds of psychiatric casualties and contributed in a large measure to the formulation of standards, policies and methods resulting in the return to duty of thousands of other such patients. By his actions and by his devotion to duty, he played a leading role in conserving the

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strength of the command and has reflected credit upon himself and the Medical Corps of the Army of the United States.

MAJOR BENJAMIN FRANK VOGEL, Medical Corps, 7th Armored Division. THE BRONZE STAR MEDAL. For distinguishing himself by meritorious service in connection with military operations against an enemy of the United States in France, Belgium and Holland from 1 September 1944 to 22 November 1944.

During this period Major Vogel, as the division

psychiatrist, organized and operated a combat exhaustion center. No provisions had been made in the Tables of Organization and Equipment for such an installation. He collected and improvised the necessary equipment for treatment of individuals suffering from combat exhaustion and trained officer and enlisted personnel to care for them. This officer rendered valuable service to his division by eliminating individuals not fit for further combat and returning to their unit rehabilitated personnel who could continue to serve as combat soldiers.

CLINICAL NOTES

INSULIN AND ELECTROSHOCK THERAPY IN ONTARIO HOSPITALS

The following data concerning results of shock therapies in Ontario hospitals are supplied by Dr. Norman L. Easton, clinical director of the Ontario Hospital, New Toronto, who pioneered the work in this province with the introduction of insulin therapy.

From June 1, 1938 to Dec. 31, 1945, 440 patients in five Ontario hospitals received insulin therapy; of these, 384 were diagnosed schizophrenia. The remainder included manic-depressive psychosis (32 cases), psychoneurosis (11 cases), miscellaneous (13 cases).

Of the 384 cases of schizophrenia, 55 percent showed positive results (recovery or marked improvement). Of those ill less than six months, 83 percent gave positive results. Of those ill more than 18 months only 4 percent were shown as recovered and 31 percent as much improved.

Patients with catatonic symptoms showed the highest recovery and improvement rate (65 percent positive results). Sixty percent of patients with schizo-affective symptoms gave positive results.

From July 1, 1941, to Dec. 31, 1945, 2003 patients in nine Ontario hospitals received electroshock therapy, classified as follows:

Schizophrenia	861
Manic-depressive	676
Involuntional psychoses	190
Psychoneuroses	142
Defectives with psychoses.....	31
Paranoid states	22

Infection psychoses	16
Neurosyphilis	13
Metabolic psychoses	13
Miscellaneous	39

Of the 861 schizophrenics, 34 percent showed positive results (patients ill less than six months, 46 percent positive; those ill longer than 18 months, 22 percent positive).

During the same 4½ year period 676 manic-depressive cases were treated with electroshock. Of these, 69 percent gave positive results (72 percent of those treated within 6 months; over 18 months, 51 percent). Positive results ranged from 70 to 75 percent in depressed and mixed types, 64 percent in manic types.

Of 190 cases of involuntional psychoses (melancholia, paranoid and other types), 72 percent showed positive results (under six months, 74 percent; over 18 months, 67 percent).

Results with the involuntional depressions were especially favorable—77 percent positive as compared with 41 percent of involuntional paranoids.

Of 142 psychoneurotics (including 53 "reactive depressions") 50 percent responded favorably to electroshock. Results according to duration of illness showed an interesting contrast with those in other psychiatric conditions. Psychoneurotics ill less than six months gave 45 percent positive results; those ill six to 18 months, 62 percent; longer than 18 months 43 percent.

CORRESPONDENCE

Editor AMERICAN JOURNAL OF PSYCHIATRY:

SIR: On page 522 of your issue of January 1946, Dr. Franz J. Kallmann made an allusion to a case study which I contributed to the Journal of Nervous and Mental Diseases in February 1945. He wrote: "Last year's prize for the misinterpretation of basic genetic principles belonged to L. A. Osborn, who introduced the concept of 'psychic contagion' in order to explain the observation of five psychotic sisters."

My article summarized state hospital records extending over 59 years and 22 different admissions; the five sisters, four other siblings and all relatives about whom information could be obtained—a total of sixty persons—were described in detail. In a brief comment I stated the material was offered so that psychiatric hypotheses could be checked in relation to it. The reactions that occurred were diagnosed as schizophrenia, manic-depressive psychosis and mental deficiency.

I did not "explain" the observation of psychoses in five sisters. I pointed out the danger of "ignoring the predisposition of these people to crack under life's stresses." The reference to "psychic contagion" was

taken from my discussion of "some non-genetic factors to be considered," and was properly attributed to Kempf; I did not "introduce" it. Sadler's "Modern Psychiatry" (Mosby, 1945, p. 250) states: "According to his (Kempf's) theory, functional psychoses are excitatory-compensatory, inhibitive-depressive, or benign or malignant dissociative reactions to the environmental stresses (chiefly social and familial)." A case history of the type I presented certainly should be considered in its social and familial aspects as well as from the genetic point of view.

I know something of Dr. Kallmann's views on medical genetics; I heard him give a series of lectures on the subject at the Psychiatric Institute in New York City five years ago. I presented the cases so that they could be studied from the genetic standpoint, but did not attempt to do so in the article. There was therefore neither misinterpretation nor interpretation of "basic genetic principles" in my article.

Sincerely yours,

LESLIE A. OSBORN, M. D.,

Assistant Professor of Psychiatry,
University of Buffalo.

COMMENT

NATIONAL SCIENCE FOUNDATION

Dr. Howard A. Meyerhoff, writing in the February 1946 number of the *A. A. A. S. Bulletin* of which he is co-editor, succinctly summarizes the situation as follows:

"There have been introduced into the Senate four bills which propose the establishment of a National Science Foundation. The contents of these bills need not be reviewed here, but the thinking which went into them is pertinent. It may be summarized as follows:

"S. 1285—Approximately fifty scientists, not representing all the scientific fields, devised a formula, drafted a scientific bill, and found one senator to introduce the bill.

"S. 1297—Three Senators, drawing upon earlier experience and upon new advice from an unknown number of scientists evolved a formula, drafted and introduced a political bill.

"S. 1720—Five senators, drawing upon testimony and direct advice from hundreds of scientists, modified the formulas of S. 1285 and S. 1297, drafted and introduced a politico-scientific bill.

"S. 1777—One scientist, who, alone among 100 colleagues appearing before Senate committees, testified against federal support of research, developed the central idea of his testimony and found eight senators who were ready and willing to introduce it as a bill. The last, though difficult to label, is more political than scientific, when gauged by the definitions adopted early in this article.¹

"Superficially the situation seems confused and confusing, but analysis quickly clarifies it. The essential elements in legislation of this kind are both scientific and political. In the scientific category, the legislation must conform with scientific standards not only in theory but in actual operation. In the political category, it must be sufficiently inclusive to leave no essential group unrepresented; it must contain provisions which are acceptable to the legislative and executive branches of the government; it must work, and to work it must anticipate the more important problems which will arise in its operation.

"If these requirements are applied to the four bills, the inadequacy of S. 1285 and S. 1297 is evident,

¹ *Scientific thinking*—reasoning from facts to a conclusion which fits all the facts.

Political thinking—reasoning from a conclusion into which all the facts are fitted—if necessary, by the application of "political methods."

and the supporters of both bills will undoubtedly merge their interests in a revision of S. 1720. The revision is nearly complete, and despite debatable issues of a minor character, the final bill promises to meet the scientific and political requirements. Scientifically it assures the freedom, the quality, and the sustained support of research under competent direction and with much needed coordination. Politically it leaves the President advised but unrestricted in the making of key appointments. It includes the social sciences and assures geographic distribution of research funds and scholarships. It centralizes responsibility for operations, yet provides a board to see that responsibility is properly assumed and utilized. It anticipates international and patent problems arising from the operations of the Foundation.

"Despite the political cast of S. 1777, it falls short of meeting political requirements. It restricts the President's power of appointment and then removes the proposed Foundation beyond the control of both the President and the Congress, save as the latter can render any agency impotent by failure to appropriate funds for operation. It fails to assure equitable geographic distribution of research and scholarship grants. The proposed Foundation is investigative and advisory—it must determine financial needs not met from private sources and then recommend appropriations to Congress. Such a plan is subject to so many hazards that it is not likely to work. Despite its political shortcomings, S. 1777 was classified as political because the definition of political thinking applies to it. Its provisions were reasoned from a conclusion—the conclusion that scientific research should be supported by private funds and that, if these must be supplemented, the government should supply the funds but without other controls.

"In S. 1720 the best scientific thinking has met the best political thinking. As a result, scientists and legislators have a bill but not an act. At this point some political thinking, implemented by political method, is imperative. The conclusion from which the reasoning must start is simply that S. 1720 revised is a good bill and merits passage. Passage will ensue if (a) all Congressmen know its merits, especially relative to S. 1777; (b) the bill has the support of a vast majority of scientists; (c) Congress is convinced that the Science Foundation is worth the cost despite the obvious need for economy; and (d) the general public is intelligently sympathetic or, at least, not hostile."

NEWS AND NOTES

GENERAL SEMANTICS SEMINAR.—The Institute of General Semantics, Chicago, will again this year conduct a three weeks seminar, August 12-31. Count Korzybski, members of his staff and visiting lecturers will participate in the program.

The number of registrants will be limited to approximately thirty, and applicants are expected to have some knowledge of the literature of general semantics. The registration fee is \$25, which is credited to the \$125 tuition charge. One full and five partial scholarships are available. The Grossman Memorial Scholarship including travel stipend will be awarded to a psychiatrist.

For information concerning the 1946 seminar write to M. Kendig, Educational Director, Institute of General Semantics, 1234 East 56 St., Chicago 37, Illinois.

GROUP THERAPY BIBLIOGRAPHY.—The American Group Therapy Association announces the publication of a bibliography on group therapy. The bibliography consists of four sections: (1) Bibliography on group therapy; (2) Group psychotherapy in the armed services; (3) Symposia; (4) Books.

The Bibliography can be obtained by writing to the Association at 228 East 19th Street, New York 3, N. Y. The price is 40¢ each.

THE A. E. BENNETT NEUROPSYCHIATRIC RESEARCH FOUNDATION.—This new foundation for psychiatric research is an outgrowth of the fever therapy research department of the University of Nebraska College of Medicine at Omaha. With a view to expanding the activities of the department, the director, Dr. Bennett, established a fund several years ago which permits the Foundation to begin operations with an initial endowment of \$25,000.

The Foundation is organized as a non-profit corporation, chartered under the laws of the State of Nebraska, July 7, 1945, for the following general purposes:

1. To conduct research in the cause, pre-

vention and treatment of neurologic and psychiatric diseases.

2. To provide fellowships whereby selected young physicians who have completed their internships may be trained in neuropsychiatry or pursue special research projects for graduate degrees at accredited medical schools.

3. To provide facilities and hospital care for selected patients undergoing research investigations.

The board of directors includes A. E. Bennett, M. D., Paul T. Cash, M. D., John A. Aita, M. D., Fred H. Hellner, Foster E. Bennett, Carl A. Falk.

An advisory board has also been established, consisting of C. F. Kettering, director of research, General Motors Corporation, L. J. Meduna, M.D., associate professor of psychiatry, University of Illinois Medical School, Hans H. Reese, M. D., professor of neuropsychiatry, University of Wisconsin Medical School.

PSYCHIATRIC EDUCATION IN BRAZIL.—The Brazilian Society of Neurology, Psychiatry and Legal Medicine at a recent meeting passed a resolution representing to the authorities charged with the reform of medical education, the necessity of enlarging the scope of psychiatric education for all medical students and of making the course obligatory. In this action the Society follows the example of the Council on Medical Education and Hospitals of the American Medical Association.

MEDICAL HISTORY IN ART.—An exhibition of the History-of-Medicine-in-Art was held at New York University College of Medicine, April 15 to April 27, 1946.

The prints shown were from a collection of more than 1,000 owned by Dr. Clements C. Fry of the Department of Health, Yale University, who has been collecting medical prints since 1927. Many of his earliest examples were acquired from the collection of

Dr. Eugen Hollander, who wrote extensively on the history of medical caricature. The exhibition included prints displayed recently at the National Gallery of Art, Washington, and others selected by Dr. Fry from his collection especially for New York University's showing.

Several early fifteenth century woodcuts representing cures by faith and works of Lucas van Leyden, Pierre van der Borch, van Ostade and Rembrandt in the sixteenth and seventeenth centuries were shown. Emphasis falls on the eighteenth century, when charlatans and quacks were popular targets for satire. Examples included caricatures by Rowlandson and Woodward and an unusual colored aquatint by L'Eveille. Prints by Daumier, Boilly and Cruikshank were among those on medical subjects in nineteenth century art. Among the examples of contemporary art were two drawings by Darrow and Petty satirizing psychoanalysis.

THE MENAS S. GREGORY LECTURE 1946.—Brigadier General William C. Menninger, A. U. S., delivered the Menas S. Gregory Lecture for 1946 at the New York University College of Medicine on Friday April 26, in the amphitheatre, psychiatric division, Bellevue Hospital.

General Menninger's subject was "Lessons from Military Psychiatry for Civilian Psychiatry."

It will be recalled that this lectureship was established as a Memorial to Dr. Gregory, the first director of the psychiatric clinic of Bellevue Hospital and the one through whose efforts the present modern psychiatric hospital was made possible.

MISSOURI NEURO-PSYCHIATRIC SOCIETY.—This newly organized society, comprising all the neurologists, psychiatrists and neurosurgeons in the state of Missouri, held its first meeting in November 1944. During 1945 no meetings were held because of war conditions. The second meeting of the Society was held at the U. S. Medical Center, Springfield, Mo., April 17, 1946. After a tour of the Federal Hospital and a complimentary dinner at the Medical Center, the members listened to a symposium on the psychopath in which Doctors M. J. Pescor,

L. J. Zbranek, Harry Leaffer, George Geil and R. A. Darke took part.

It is planned to hold four meetings yearly in October, December, February and April. Officers of the Society are: Hermon S. Major, M. D., president (Kansas City); E. F. De Vilbiss, M. D., vice president (Kansas City); Paul Hines, M. D., secretary-treasurer (St. Louis).

VETERANS ADMINISTRATION CONTRACTS WITH PRIVATE MENTAL HYGIENE CLINICS.—In reply to inquiries as to whether contracts with private mental hygiene clinics for the out-patient treatment of veterans will be cancelled when the Veterans Administration mental hygiene clinics are organized and functioning, the statement is authorized that it is the policy of the Veterans Administration to continue all such contracts indefinitely, providing the quality of work justifies their continuation.

NATIONAL COMMISSION ON CHILDREN AND YOUTH.—The National Commission on Children and Youth, Washington, is calling for a nation wide development of medical and health facilities, including psychiatric care for children, and for the training of necessary personnel. Dr. Kent A. Zimmerman, head of the recently established mental health unit of the Children's Bureau, U. S. Department of Labor, in a recent statement said that mental hygiene services for children should be an essential part of community public health and welfare services; yet full time child guidance is provided in only 27 of the largest cities in the United States. In small towns and rural areas, such a service is almost unknown.

The Children's Bureau is helping state health and welfare agencies plan their mental health services for children as part of their general program.

EASTERN ASSOCIATION OF ELECTROENCEPHALOGRAPHERS.—Twenty-seven prominent civilian and military electroencephalographers met at the Institute of Living, Hartford, Connecticut, March 1, 1946, to organize the Eastern Association of Electroencephalographers. Formed for the purpose of promoting research in the field, the As-

sociation plans to pool scientific information concerning the neurophysiology and clinical application of electroencephalography.

Lieutenant Commander Robert S. Schwab, MC, USN, of the United States Naval Hospital in Boston, was elected chairman of the Association, and Dr. Charles W. Stephenson, of Hartford, was elected recorder.

One of the immediate projects of the group is to approach the American Physiological Society, the American Neurological Society, the American Psychiatric Association, and the Council of Physical Medicine of the American Medical Association, with a view to establishing a joint-committee to consider minimum standards for approved electroencephalographic laboratories. Chairman of the committee appointed to pursue this project is Dr. Hallowell Davis, associate professor of physiology at Harvard; members are Dr. Paul A. Hofer, associate professor of neurology at Columbia University, and Dr. Margaret Kennard, assistant professor of neuropsychiatry and neuroanatomy at New York University.

Dr. Wladimir T. Liberson (Institute of Living, Hartford) was appointed chairman, and Dr. Leslie F. Nims (Yale University) and Dr. Margaret B. Rheinberger (Montefiore Hospital, New York City) were appointed members of the organization and program committee.

The newly formed association will meet bimonthly. The second meeting was held at the Institute of Living, April 12, 1946, at which time a draft of the constitution and by-laws was presented by the organization and program committee. Experiences in electroencephalography in the Army and Navy were also reported at this meeting.

DR. JOSEPH HUGHES APPOINTED PROFESSOR OF PSYCHIATRY, WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.—To succeed the late Dr. Harold D. Palmer, Dr. Joseph Hughes of the Institute of the Pennsylvania Hospital has been appointed professor of psychiatry at the Woman's Medical College of Pennsylvania.

Dr. Hughes, a graduate of the University of Pennsylvania in both arts and medicine, has been a member of the medical faculty of the university since 1937. He

holds the rank of commander in the medical service of the U. S. Navy and is chief of the neuropsychiatric service at the Philadelphia Naval Hospital.

TRAINING IN PSYCHIATRY UNDER DEPARTMENT OF PUBLIC WELFARE, ILLINOIS.—The Department of Public Welfare, State of Illinois, offers a one, two and three year training in neuropsychiatry and its allied fields. The course is designed to fulfill the requirements of the American Psychiatric Association and to prepare the resident for examination to become a diplomate of the American Board of Psychiatry and Neurology. Positions in the state hospitals will be filled from the graduates of this course whenever possible.

The outstanding features of these residencies will be the nine months training in one of the approved state hospitals and the three months training in the Illinois Neuropsychiatric Institute in cooperation with all the class A medical schools in Chicago. Another outstanding feature will be service at the Veterans' Rehabilitation Center, the Psychopathic Hospital of Cook County, the various psychiatric wards of private hospitals, and the psychiatric clinics of the Juvenile, Criminal and Municipal Courts. Preference will be shown to veterans of World War II.

These residencies start July 1, 1946. Salary for the first year will range from \$150 to \$200 per month; second year \$185 to \$245; third year \$310 to \$360. Applicants will send their requests to Dr. Harry R. Hoffman, State Alienist, Illinois Neuropsychiatric Institute, 912 South Wood Street, Chicago.

THE ROCKEFELLER FOUNDATION SUPPORT OF PSYCHIATRY.—In his review of the work of the Foundation for 1945, President Raymond B. Fosdick reports that appropriations in that year for projects in the field of psychiatry amounted roughly to \$400,000. This makes a total of nearly \$15,000,000 that it has spent in this field in the last fifteen years.

Among the institutions to which appropriations were made in 1945 were: The Karolinska Institute in Sweden; University of Illinois (schizophrenia); Columbia Uni-

versity (genetic factors in geriatrics); American Psychiatric Association (psychiatric nursing); Vanderbilt University (emotional reactions in surgery).

Dr. Fosdick comments that psychiatry "with all its difficulties is perhaps the most significant, as it is the most challenging, field in which modern medicine is engaged."

THE LASKER AWARD FOR 1946.—Dr. George S. Stevenson, medical director, The National Committee for Mental Hygiene has announced that the Lasker Award, presented annually for outstanding service in the field of mental hygiene, will be given this year for the most significant experimental investigation into behavior deviation. Nominations, with supporting data, are now being accepted by the Committee. The work of the candidate must either have been accomplished or have been tested and won general acceptance, approximately within the past year.

Presentation of the \$1000 award is made each fall at the annual meeting of the Committee, which will be held this year on Oct. 30 and 31 at the Hotel Pennsylvania.

TRAINING OF PSYCHIATRISTS, NEW YORK STATE DEPARTMENT OF MENTAL HYGIENE.—Commissioner Frederick MacCurdy reports that to meet the urgent need for a greatly increased number of trained psychiatrists in the New York State Service, a training program for 100 physicians has been established in which the New York State Psychiatric Institute and Hospital, the College of Physicians and Surgeons, Columbia University, and the Syracuse Psychopathic Hospital and Syracuse University Medical School are participating.

These courses, scheduled to continue for 48 weeks, started April 5, in New York and May 3, in Syracuse. They are designed to prepare candidates for examination by the American Board of Psychiatry and Neurology. Physicians taking these courses will serve on the staffs of various institutions under control of the State Department of Mental Hygiene.

CONSULTANT IN PSYCHIATRIC NURSING, AMERICAN PSYCHIATRIC ASSOCIATION.—Mrs. Laura W. Fitzsimmons who for several

years has served as psychiatric nursing consultant to the Association, and has made nation-wide surveys of training facilities and needs in this field, tendered her resignation February 15, 1946, in order to accept the position of assistant superintendent of nursing in charge of psychiatric nursing for the Veterans Administration with headquarters at Washington, D. C.

Mrs. Lela S. Anderson has been appointed to succeed Mrs. Fitzsimmons at the headquarters of the Association in New York. Mrs. Anderson has had wide experience in field of psychiatric nursing; she is a graduate of Columbia University, and for the past 7½ years has been supervisor of training for nurses and attendants in the Virginia State Department of Mental Hygiene.

THE NEW MANHATTAN STATE HOSPITAL.—The New York State Department of Mental Hygiene has announced that as a part of their post-war development program, the old Manhattan State Hospital on Ward's Island will be replaced by an entirely new institution with 3000 beds to serve mainly New York City and at a cost of \$15,000,000. Plans for the new hospital are now being prepared.

It will be recalled that under the original arrangement between the state and the city for the evacuation of the old state hospital, Ward's Island in its entirety was to revert to the city for the development of parks and playgrounds. Under legislation put into effect this year however a portion of the Island will be retained by the state for the erection of the new hospital, and the remainder will be used for parks and playgrounds.

QUARTERLY REVIEW OF PSYCHIATRY AND NEUROLOGY.—This new review, the initial number of which bears date of January 1946, is the latest in a series published by the Washington Institute of Medicine, including medicine, surgery, obstetrics and gynecology, pediatrics, ophthalmology, otolaryngology, etc. Dr. Winfred Overholser, professor of psychiatry, George Washington School of Medicine and superintendent of St. Elizabeths Hospital, is editor-in-chief, assisted

by an editorial board of twelve prominent neurologists and psychiatrists.

The several fields under the two main divisions are systematically represented, and altogether some 150 contributions to the recent literature are abstracted in this first number. These abstracts are non-critical. In the psychiatric division the topics most extensively dealt with are clinical psychiatry, psychiatry and general medicine and treatment. The neurological section devotes considerable space to head injuries and diseases and injuries of the cord and peripheral nerves.

A feature of the *Review* is that following certain of the abstracts brief references to related articles are appended.

In its selection of articles to be abstracted the editors endeavor to present those which "make substantial contribution to psychiatric and neurologic knowledge." It is inevitable that it will be a matter of opinion whether all the articles chosen satisfy that criterion; probably some of them do not. The reader is given access however to many of the most significant contributions to contemporary literature, and the *Review* promises to be a very valuable addition to the publications in the fields represented.

BOOK REVIEWS

PRESCRIBING OCCUPATIONAL THERAPY. 2nd Edition.
By William Rush Dunton Jr., M.D., (Springfield, Illinois. Charles C. Thomas, 1945.)

This book reprinted in response to numerous requests has been completely revised. A chapter on rehabilitation has been added as well as up to date references.

Dr. Dunton, one of the pioneers who has contributed so much to the wholesome latter development of occupational therapy, has been a keen observer. As stated in the preface to the first edition, occupational therapy until recently has not been included in the curriculum of the medical school. Few medical teachers have given this subject more than passing mention. Therefore, the physician who senses that occupational therapy could be of help to patients met in his private practice has little information upon which to write a prescription. One of the objectives of Dr. Dunton's book is to furnish the busy physician as briefly as possible this much needed insight. To accomplish this, the author has drawn on the entire related occupational therapy literature, much of which is accessible largely through the author's personal efforts as editor of the *Maryland Psychiatric Journal* and the *Journal of the American Occupational Therapy Association*, *Occupational Therapy and Rehabilitation*. Dr. Dunton's rich personal experience in the use of occupational therapy is felt throughout the book and is further reflected in the references which have been carefully selected to broaden the interest and insight stimulated by the brief chapters of the book.

While the author has aimed at brevity, this has in no way limited the broad scope of the book which is divided in two parts. Part I presents in 38 pages, chapters on Significance, Prescription, and Fatigue.

In accepting the definition that occupational therapy is "any activity, mental or physical, definitely prescribed and guided for the distinct purpose of contributing to, and hastening of recovery," the field of activity is recognized to be as broad as the needs of sick humanity. The overall aim of occupational therapy aiding recovery is clarified by preventing specific objectives indicated by the form of illness.

The chapter on prescription is well summed up in the following: "What should be considered before a prescription be written."

"First: The object to be obtained.

"Second: Type of Occupation.

"Third: The contra-indications which may influence choice of occupation.

"Fourth: Precaution necessary. The better understanding of the patient given the therapist, the more intelligent the application of treatment."

Part II presents the special application of the

general principles of occupational therapy. In this section will be found chapters on use of this treatment for mental disorders, general medical, surgical, ortho-pedic, Cardiac, Tuberculous, bed patients and children.

Occupational therapy was first used for the benefit of mental cases, wherein it is more extensively used than in any other medical field.

The usefulness demonstrated here inspired and made possible the adaptation and application of occupational therapy to the needs of the other medical groups. The eighteen pages of the chapter on mental disorders therefore contain much of interest to every physician as well as those especially interested in psychiatry.

As is stated, the patients are "let down" to such a degree that often there is a complete character change. Understanding of this group is facilitated by briefly presenting a simplified classification of mental diseases that permits discussion of several types rather than disease entities. This makes it possible to consider briefly "the excited or manic, the depressed or apathetic, and the psychoneurotic" and to indicate the manner in which occupational therapy is especially adapted to the specific needs of each type. However, while the needs of each of the several groups can be indicated each patient is an individual problem. The patient's background, personal likes and dislikes, as well as the desired therapeutic objective must be carefully evaluated in prescribing occupational therapy, selecting the proper activity and even deciding the manner in which the treatment shall be presented.

In this brief chapter alone will be found much to help those prescribing and using occupational therapy in treating mental disorders. The mental mechanisms here considered not infrequently are met in a lesser degree and must be considered if the patients of other medical groups are to be effectively treated.

In the last chapter the rehabilitation or "the return of the physical or mental invalid to his former usefulness as a member of society" is briefly considered. Occupational therapy having aided and hastened recovery can do much to prepare the individual for and assist him make a satisfactory return to normal.

Those temporarily or permanently handicapped by illness or injury have a fear of being different that frequently blocks further progress toward rehabilitation. The therapist has available interesting crafts and other techniques which may be so adapted to meet special needs that satisfactory performance can be guaranteed. The fear of being different can be best eliminated by thus transferring the focus of attention to actual performance. When the psychological readjustment has become an accomplished fact, rehabilitation can be under-

taken with the assurance of the patient's complete cooperation.

The patient's cooperation and reaction to a treatment program can be largely conditioned by the degree of insight of those interested in him. This book, therefore, should be most helpful not only to the physician, occupational therapist and nurse, but also to friends and relatives of patients.

LOUIS J. HAAS,
White Plains, N. Y.

"MAN'S GREATEST MYTH: THE FALLACY OF RACE,"
2d edition. By M. F. Ashley Montagu, (New
York: Columbia Univ. Press, 1945.)

May the reviewer be permitted a paraphrase? "What this country needs is a good book on race!" The second edition of Professor Montagu's book nearly fills the bill. The chapters of the first edition have been revised and four new ones have been added. "Race and Blood" debunks the Nazi *Blut and Boden* ideology. "Myths Relating to the Physical Character of the American Negro" does a good job of summarizing the contributions of Doctors W. M. Cobb and Julian Lewis. "Are the Jews a Race?" reflects Coon and Brutzkus; Seltzer's paper of the same title might have been consulted and Jacob's chapter in Britt and Graeber would have been suggestive. "What is the Solution?" boils down to the one word: *education*. In two appendices the Springfield (Mass.) Plan and the Cranbrook Institute (Bloomfield Hills, Mich.) Exhibit are discussed.

Professor Montagu very rightly emphasizes the genetic aspect of the race problem. He maintains that the definition and classification of races are not possible until we know more about human genetics. With this reservation, he presents excellent discussions concerning attempts to set up racial categories. He does a first-rate job of reporting on numerous studies of race mixture, always emphasizing the need of a genetic knowledge as basic to interpretation. In the first edition he chided his fellow physical anthropologists for their disinclination or inability to focus upon human genetic problems. In this edition he happily reports that some of them have seen the light.

As the reviewer read this book he found himself agreeing with the author's essential facts. They are well marshalled, clearly presented and carefully documented. But the reviewer had the feeling that the author has tackled the problems of race, and offered his solutions, far more by deft phraseology than by logical argument. There is frequent admission of biological differences among the peoples of the world, differences which tend to set groups apart from one another with more or less clarity. But these are "divisions" and "ethnic groups," not "stocks" and "races." Well, it seems to the reviewer that a stock or a race by any other name is still a biological unit to be reckoned with. As long as we do set up such categories there will be attitudes and reactions concerning them. For "racist" we'll have "ethnacist," that's all! The situation is simply this: the reviewer agrees pretty well with Professor Montagu on fact, disagrees

with him on what he does with fact. He maintains that biological divisions (which he readily recognizes) are mythical and fallacious, so he denies that they can be scientifically valid. To the reviewer's way of thinking this is playing ostrich—the head of biological fact is buried in the sands of social theory.

The term *race* may (as Professor Montagu points out) be new, but the feeling of peoples, one for the other, is old. A new term, an old term, or the eradication of any and all terms, will not change the essentially human pattern of assessing fellow-men in terms of in-groups vs. out-groups, we-groups vs. you-groups. Man must learn to live together race or no race, term or no term. He'll still recognize biological differences—he must learn not to attach to these observable differences presumed social values. The reviewer feels that Professor Montagu has missed the emphasis: it is not the biological classification of man that is mythical, but social interpretation placed thereupon that is fallacious.

Professor Montagu is 100% correct when he says that education—and more and more of it—is the answer. Consider a fact such as Alpenfels has reported to the reviewer, namely, that when 142 Chicago high school students were asked, "What is a race?," 122 of them said, "It is skin color"; of these 122 only 30 were even willing to consider that there might be other factors. Education must not deny skin-color; it must, instead, teach that skin-color (or any other biological hall-mark of race) is not an evaluatory criterion in the socio-cultural framework. The eyes of those 142 students did not lie to them, but their beliefs in what their eyes beheld were wrong. It is our job—by *education*—to correct the wrong inner vision.

W. M. KROGMAN, Ph. D.,
University of Chicago.

VOLUNTARY HEALTH AGENCIES. *An Interpretive Study*. Prepared under the auspices of the National Health Council. By Selskar M. Gunn and Philip S. Platt, (New York: The Ronald Press Company, 1945.)

This book is presented as a report of a three-year study of voluntary health agencies carried out under the auspices of the National Health Council. It is, fortunately, not a statistical compilation, but a thoughtful and thought-provoking analysis of the nature of voluntary health agencies, their bases, objectives, development, their relationship to each other and to the official health agencies, their ways and worries of raising money and of spending it, their successes and failures—in short, their virtues and their failings. Praise is lavished on their virtues and achievements or on what the authors, from a very broad background of experience, consider virtues and achievements, and specific examples are cited and reviewed. The N.O.P.H.N. appears generally to rank highest and with this most readers will concur. The failings or what the authors consider failings are, for the most part, well veiled but, nevertheless, effectually

implied in generalities and suggestions for improvements; naturally, reference is not made to any specific examples illustrating such failings. The only agency whose failings and failure are openly exposed is the National Health Council itself.

Why, then, these agencies, developing, as the report says, from a handful at the beginning of the century to now over 20,000; spending, exclusive of the Red Cross, over \$50,000,000 annually; holding the strong material and moral support of over 300,000 rather exceptional men and women and obtaining and utilizing the free services of over 1,000,000 volunteer workers? "No other country," the report says, "has produced so great or so varied an expression of the universal disposition to help others or to advance the common good." "What conditions here," is asked, "favoured the rise and growth of health agencies in all their variety and in all degrees of vigour and effectiveness and social values?" For answer, let the report speak for itself: "There is, first of all, the American tradition of freedom—freedom of expression and inquiry, freedom of association and initiative. The second factor is our common aggressive attitude toward all sorts of problems and situations. We are generally dynamic and pragmatic: we prefer doing something to merely talking about it, to merely waiting for things to happen. Without this, no amount of freedom would produce any results" "We had the urge, we had the knowledge, we had the freedom and we had the means" "Each new voluntary health agency, as it arose, expressed not only the urge to help others, which practically all of us have in common, but usually also the exceptional initiative of a particular individual. This exceptional initiative or inventiveness, which we associate with the pioneering tradition and assume to be peculiarly American, has often led to the establishment of strong permanent organizations. It was indeed the impatience or zeal of particular men and women that made them take the lead in organizing attacks on the health problems of maternity, infancy, childhood and adolescence, the college period and adult life." Have the voluntary health agencies warranted the very generous support which they have received? Have their results been at all commensurate with the budgets? Admittedly, results are often intangible and difficult or impossible to assess, even in the very general terms of this report. Nevertheless, the citizen-contributor and the well-intentioned but not necessarily well-informed board member have a right to know the dividend from the vast investment in time, interest, energy and money. They might reasonably look for some such appraisal in this fairly extensive analysis; but if they do, they will be disappointed. There is no critical objective evaluation of results; and there is great room for doubt that the use of the self-appraisal form recommended in the report will assist materially in providing this all-important information. It is quite clear, however, that there are deficiencies, maladjustments, sometimes absurdities, due largely it seems to over-lapping, lack of good

balance, and lack of co-ordination. Sometimes the individual is at fault. "There is an urgent need," the report says, "for courses that would equip an executive manager with various tools of his craft and with skill in using them to make his agency more effective. How to work with a board of directors, plan its meetings and educate its members; employment, personnel policies, and staff organization; preparation of budget, accounting, financing and insurance practices; building maintenance and equipment; community relationships, cooperative activities, public relations; future planning; vitality and efficiency in organization, methods of self-appraisal and a score of other considerations are vital matters seldom put before prospective executives in practical or useful form. Great improvement in agencies would result from institutes for executives devoted to these and similar problems." Who or what is to supply these courses? Surely it is not intended to imply, as some have already inferred, that this is a responsibility of the Schools of Public Health in our universities! If so, a voluntary agency may be needed to protect universities from the hue and cry for vocational training from every by-path of life. Surely life is not devoid of all initiative and all capacity except that "learned in school?" In fact, such a suggestion is negated in a paragraph from the same section of the report. "The most frequently noted shortcomings of executives are inadequate training, lack of business or professional experience and skill in various personal or group relationships which the position constantly demands. But many of these shortcomings may be to a considerable degree corrected. *The high competence that untrained but ambitious and intelligent individuals can acquire through their own efforts in such fields as tuberculosis associations, social hygiene societies, and the like, is worthy of notice.*" (Reviewer's italics.) "Personality defects," we are told, "which few individuals do not have in some degree—defects in appearance, speech, mannerisms, attitudes—are often successfully overcome where there is will and desire. These are not obstacles to the ambitious. Personalities that lack sympathy, friendliness or leadership qualities are sometimes found. It is doubtful whether other assests can over-balance these deficiencies." No three-year study was needed to supply this information.

But the underlying purpose of publication of this report would seem to be again to indicate the need and make a plea for co-ordination and elimination of over-lapping of responsibility and activity. The possible advantages and disadvantages of such co-ordination which necessarily implies some degree of centralization, standardization and unification are well considered. The possibility on the one hand of stultifying interest, destroying incentive and depressing action by detracting from individual responsibility is set against the advantages of reducing waste due to over-lapping, and of giving a more equitable distribution of funds to the more worthy, more urgent, or more reasonable purposes. In the opinion of the authors, after due consideration, the advantages over-weigh the disadvantages.

They recommend, therefore, the establishment of a health council at the local level for co-ordinating the work of all health agencies, voluntary and official, in the community; and, at the national level, the establishment of a new body or the re-organization of the National Health Council as a co-ordinating body assisting, and advising, but not directing the component organizations at both the national and lower levels. The authors find no convincing evidence that such organization would impair efficiency in any way. This review, it will be noted, digresses considerably from the main theme of the report; so does the book.

The board members of voluntary health agencies, their executives and staffs will read this report with interest and profit. They will probably recognize their own pictures or choose the caps that fit them best. Personnel of official health departments might well take a lesson from the voluntary agencies in getting public support. If the public read this book, which is not likely, they may be more chary in the future of contributing to the voluntary health agencies. The report is bound to provoke discussion; this is probably the authors' intention.

N. E. MCKINNON, M. D.
Univ. of Toronto.

ETUDES DE PSYCHOLOGIE MEDICALE. Vol. 1. *Perception et Language*, Vol. 2. *Geste et Action*. By Andre Ombredane. (Rio de Janeiro: Atlantica Editoria, 1944.)

In these two volumes written in the French language, the author has presented a series of problems of neurological psychology. An historical account of the view of Baillarger and Hughlings Jackson is followed by a chapter on the semantic aspects of language. In subsequent articles the author discusses optic agnosia, visual verbal agnosia (pure alexia), congenital word-blindness, acoustic agnosia and apraxia. The various articles are written from an historical viewpoint with special consideration of the French and German literature.

In the introduction the author states that the purpose of the publication is to summarize his teachings on the subject of brain disease. Therefore, the two volumes will be of interest primarily to the student who wishes to find a summary of the literature as well as illustrative cases concerning the clinical symptomatology of brain disease, with special regard for perceptive and speech functions. Following the tradition of the French school of neurology, considerable emphasis is laid upon symptoms and syndromes, their description, identification and labelling according to authors. This type of approach strikes one as having primarily a collector's value, since no effort is made to report essentially new information or to advance a new theory, which would contribute to the understanding of deficient cerebral functioning.

The three case histories described are well examined, but no effort is made to correlate the findings with neuropathological data. The author is not concerned with problems of localization nor the nature of cerebral disease. This aspect will be

especially disappointing for the neurologist, while the research worker will be struck by the incomplete list of references and the striking absence of the citation of modern approaches to the study of cerebral function. No mention is made of the advances brought about by experimental surgery and neurophysiology, in spite of the fact that lobotomies, lobectomies, incision of the corpus callosum, ablation of parts of the cortex in man, in addition to all the data collected in animal experiments, have forced us to revise the old theories of cerebral functioning.

On the other hand, it is refreshing to see that in the work of the author the literature cited is not confined to any one language, and that time and effort were spent in learning about the efforts of workers of other cultures.

JURGEN RUESCH, M. D.,
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San Francisco, Cal.

BOYS ARE WORTH IT. By Kenneth H. Rogers
(Toronto: Ryerson Press, 1944.)

STREET GANGS IN TORONTO. By Kenneth H. Rogers,
(Toronto: Ryerson Press, 1945.)

Dr. Rogers discusses probable etiology of growing juvenile delinquency and outlines certain measures, which, he believes, will tend to cure the condition. Among the 'cures' suggested in "Boys are Worth It" are complete understanding of the individual offender and the forces operating upon him, good juvenile courts, proper recreational and counselling facilities, better parent education.

In "Street Gangs in Toronto," which contains the edited reports of three teachers who investigated a small fraction of the boy gangs of the city, he advocates the use of young men of tact and understanding as counsellors of unattached groups of boys.

As brief recapitulations of existing theories on delinquency the books have value. They introduce very little that is new.

W. A. SCOTT, Ph. D.,
Federal Dept. of Labour, Toronto.

THE CARE OF THE NEUROSURGICAL PATIENT BEFORE, DURING AND AFTER OPERATION. By Ernest Sachs, A. B. M. D., (St. Louis: C. V. Mosby Co., 1945.)

Introducing his subject, the author states that "meticulous attention to details in the preoperative and postoperative care of patients, through innumerable small maneuvers before, but especially during and after operation, may avert disaster or shorten convalescence; if neglected, they may cost a patient's life." The book consists of a description of the "innumerable small maneuvers," with details of examination methods, specialized instruments, drugs, anesthetics, nursing methods and surgical techniques peculiar to operations on the nervous system. A number of the commoner neurosurgical procedures are illustrated by the case history method, with emphasis on the maneuvers of management rather than history and diagnosis. The

information is clearly presented, with numerous effective photographs and illustrations. The mellow observations and cautions of a neurosurgeon with more than thirty years of experience are presented in a compact and readable fashion, making available information a neurosurgical house officer would ordinarily acquire from months of close contact with the immediate care of patients on a well supervised neurosurgical service, but which is either unavailable or not readily available in text-book or journal. For the surgical internes and residents unfamiliar with neurosurgical procedures for whom the book was particularly intended, it is a valuable reference manual.

There ought to be a comparable manual for psychiatric residents on the temperature of hydrotherapy baths, removal of matches, suspenders, shoestrings, etc., from psychotic patients and the other innumerable details which each new resident has to learn, sometimes in a tragic way.

D. B. FOSTER, M. D.
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PSYCHIATRY IN MODERN WARFARE. By *Edward A. Strecker, M. D., and Kenneth E. Appel, M. D.* (New York: The MacMillan Co., 1945.)

In this compactly, almost telegraphically, written little book the authors present their views on the place and contributions of psychiatry in war.

The first half of the book is devoted to Psychiatry and the Two Wars—contrasts, organization, symptomatology, treatment, and statistics—while the second deals with Demobilization and the Return to Civil Life.

In discussing the organization of psychiatry, the authors very properly emphasize the failure of the Army to profit by the experiences of World War I (the late institution of division psychiatrists which so well proved their value in 1918, for example), its late recognition of the importance of the problem and the inadequate support rendered to psychiatry when it was finally incorporated in the organization. In an apparent desire to make the Army's shortcomings less conspicuous, they include the Navy in their indictment, although actually the Navy was much better prepared, and accuses the psychiatrists of "lack of initiative and leadership." Those who were familiar at the time with the early consistent but consistently rebuffed efforts of Dr. Harry Steckel, Chairman of the American Psychiatric Association Special Committee, and of Dr. Harry Stack Sullivan to obtain recognition of the importance of psychiatry may doubt whether such an accusation is entirely merited.

The contrast in symptomatology between the two wars is effectively stated, as are the developments in treatment—narcosynthesis, electroshock, insulin, benzedrine, and group therapy. The authors also point out very properly that much really was accomplished therapeutically in 1918, and that military psychiatry did *not* begin in 1942. The value of the preventive psychiatric procedures developed particularly under General Menninger's régime is emphasized.

In the portion devoted to demobilization emphasis is placed upon the need of sympathy, understanding and support, and upon recognition of the fact that the vast majority of military psychiatric diagnoses "do not signify an incapacity to become an effective worker." Whether or not one agrees that "one third of the physicians in the country should be psychiatrists or able to treat psychiatric conditions intelligently," one is impressed with the need of more and better in-patient and clinic facilities for the returned veteran.

The volume will have a wide circulation, and will serve a most useful purpose in spreading among the public a recognition of the vastness of the psychiatric problem in war. It is to be hoped that at least a few copies will be readily available to the military planners in the event (hopefully never realized) of another war, and that they will be studied with profit!

WINFRED OVERHOLSER, M. D.,
St. Elizabeths Hospital,
Washington, D. C.

MATERNAL OVERPROTECTION. By *David M. Levy.* (New York: Columbia University Press, 1943.)

Dr. Levy has been impressed by the significance of maternal overprotection in the production of problem behaviour in children. Hence he has laboriously analyzed 20 case histories relating to children whose emotionally unstable mothers were oversolicitous and overpossessive. He has studied these histories from every angle and at every level, and has painstakingly compiled many tables of what he considered to be related factors. To complete the picture he had follow-up studies performed wherever possible at a period some years after initial examination.

He has presented an outline of his study and conclusions in a somewhat heavily written 400 page volume. One feels that his data have some interest and significance but that the material would have better been compressed into a single article. Then the impression that the author was forcing his theme would have been obviated.

One is struck by the sincere and honest manner in which the findings are recorded. No effort is made to gloss over treatment failures. An interesting finding contrary to expectation was in regard to the adult sexual function of the maternally overprotected individuals. Instead of the anticipated fixation at homosexual levels, almost all of the subjects studied had made adequate heterosexual adjustment.

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DOLL PLAY OF PILAGA INDIAN CHILDREN. By *Jules and Zunia Henry.* (New York: Research Monograph No. 4, American Orthopsychiatric Association, 1944.)

This is a short volume written by two ethnologists describing their observation of primitive children in a small village in the interior of Argen-

tina. The report is particularly concerned with the children's free play with a family of dolls which the authors named for specific people in each child's family to insure more significant activity. The children were encouraged to model genitalia and breasts for the dolls further to encourage their differentiation as human symbols.

The Henrys made a very thorough ethnological study of the Pilaga village in which they lived for a year. They learned the native language and associated quite intimately in all spheres of the village life up to the point of living in one of the communal houses. The best part of their book is that which gives the general background for the main experiment. Their description of the village set-up and their analysis of the tension and insecurity which is culturally determined and fostered in this primitive tribe is excellent. At best, however, such material covers only three chapters.

The rest of the book is devoted to the actual details of the central experiment. The authors took great care to record objectively the children's use of the dolls. They also made a conscientious effort to check experimental results with their direct field observations. One cannot fail to be impressed with the energy and enthusiasm which prompted such an exhaustive study. On the other hand, one cannot help questioning whether their conclusions and their use of material justified such an expenditure of effort.

The Henrys are not psychiatrists. They had to rely so heavily on David Levy's monograph on "Sibling Rivalry" for their psychiatric orientation that the effect is curiously strained and unnatural. One feels that the Henrys, to borrow from Lewis Carroll, are madly squeezing a left hand foot into a right hand shoe. The potential scope of a project such as they have attempted has been constricted by their lack of familiarity with the basic concepts involved, and what might have been a highly original study has turned into a tour de force.

HELEN HEWITT ARTHUR, M. D.,
Baltimore, Md.

READJUSTMENT TO CIVILIAN JOBS. *Report on Neuropsychiatric Problems Relating to Employment in Industry.* Prepared for the National Association of Manufacturers by the Sub-Committee on Psychiatry of the NAM Medical Advisory Committee. (Chairman: C. Charles Burlingame, M. D.)

In this timely little pamphlet, prepared by a distinguished group of psychiatrists attached to the Medical Advisory Committee of the National Association of Manufacturers, there is compressed an abundance of practical observation and suggestion relating to the placement and retention of industrial personnel, particularly veterans and displaced war workers. The result of a year's intensive study of current and anticipated problems, it constitutes an interim report only, to be revised as new information develops. For industrial psychiatry is a relatively recent field, and considerable research and experience are yet needed for the formulation of true directives. As the pamphlet shows, however,

certain general guiding principles can now be set forth, of which the most pertinent would seem to be that of matching the applicant's emotional capacities to the demands of the job.

It is emphasized at the outset that the post-war neuropsychiatric problem should not be overplayed. A certain element of emotional unrest on the part of veterans and war workers is only to be expected, but there is no need for apprehension over the outcome. Readjustment will be a function of time, and no phenomenal change will be manifest in the curve of neuropsychiatric disability in civilian life. This pamphlet is concerned actually with a very small percentage of prospective employees, those few who may need some additional attention over and above the ordinary techniques and procedures which have proved useful in the past.

The body of the report deals, then, with supplemental procedures for the proper classification of applicants for industrial employment. Three groupings are proposed. One of these (Group C) would embrace the large majority of applicants who, on the basis of the usual employment technique, need no special handling; another (Group B) would take in those who might profit by trial placement; and another (Group A), those who need more exhaustive placement procedures. Practical suggestions are given for placement interviews and the relegation of applicants to these three groups; the evaluation of appearance and mannerisms; the significance of vocational interest and drive; the interpretation of avocational interests; clues to emotional stability as seen in educational history, work history, job interest, physical history, and special sensibilities; and the evaluation of mental capacities, with special reference to memory and imagination and the handling of highly gifted people. Additional suggestions are made for dealing with individuals in groups A and B.

Couched in clear and simple language, this report makes stimulating, constructive reading for those concerned with industrial personnel work. It is pointed out that these proposals are suggestive rather than specific, and that the final placement procedure will of necessity be colored by local conditions including community standards, labor relationships, existing policies and established employment practices.—*Author's Abstract.*

SCIENCE AND SEIZURES. Second edition. By William G. Lennox, M.D. (New York: Harper & Brothers, 1946.)

The first edition of this book, published five years ago, was reviewed appreciatively by Kirby Collier in the May 1942 issue of the JOURNAL. This edition was reprinted six times and established the work as a classic.

The present edition appears in the smaller war-time format which is no less serviceable and handier for the pocket. The intervening years, the author comments, "have brought more positive gain to epileptics than to most other patients." The principal gains have been in better public education through the agency of the American Epilepsy

League, and in the development of new drugs for the control of seizures.

To do justice to recent advances in pharmacological treatment, this section has been rewritten and includes a report on tridione. This new drug "has proved peculiarly effective for patients having frequent daily seizures belonging to the petit mal group" (pykno-epilepsy, myoclonic shocks, akinetic seizures). In the author's experience the majority of petit mal patients, without complicating grand mal, "and who have taken 15 grains a day of tridione for two months have experienced relief of seizures or more than a 75 percent improvement."

Dr. Lennox, who is president of the International League Against Epilepsy and vice-president and a founder of the American Epilepsy League, has devoted much of his time during the past twenty years to the study of the epileptic disorders. This book represents the fruit of that study. As he remarks, the achievements of recent years have brought it about that the ancient popular name for epilepsy, "the hateful disease," is gradually changing to "the hopeful disorder."

It is worth noting that royalties from the sale of "Science and Seizures" are donated to the American Epilepsy League, Inc. (formerly the Laymen's League Against epilepsy).

C. B. F.

JOURNAL OF THE HISTORY OF MEDICINE AND ALLIED SCIENCES. *George Rosen*, editor. (New York: Henry Schuman. Vol. I. No. 1. Jan. 1946).

This distinguished new publication appears opportunely. As the editor remarks in his prologue, the tendency of doctors in recent decades has been to neglect the history of medicine. There are also those "progressive" or "practical" persons who incline to be disdainful of history generally as a preparation for living toward the future. Likewise the ultramodern person holds in low regard the traditional and the classic, and educationists even turn the youth away from the Latin language, without which there could be no English speech.

But the present is but a geometrical point in the flow of time. Fragmentarily we know the past, and naught else; and all science is but the record of things done. If we believe all nature and all life to be continua, and that the individual can not live in social isolation, then it follows that he cannot thrive in the isolation of the present and how often has it been said that the shoulders of the ancients afford the proper vantage point for the scientific perspective of the workers of today.

In our time civilization has taken one of its nadir dips, ties between peoples have been broken, even science has been racialized—and therefore, in so far, is no longer science.

It is important that the continua be restored; and medicine needs that its history be revived and restudied. There have been two other publications in the United States devoted to this subject. The *Annals of Medical History* established a proud record from 1917 to 1942 and ceased publication in the latter year—one of the casualties of war. The only other periodical previously in the field is the *Bulletin of the History of Medicine*, issuing from the Welch Library of the Johns Hopkins University School of Medicine under the editorship of Dr. Henry E. Sigerist. The plan of the new *Journal* is not to compete with but to supplement the *Bulletin* by expanding the field to include "all aspects of the history of medicine, public health, dentistry, nursing, pharmacy, veterinary medicine and the various sciences that impinge on medicine."

Articles in the first number of the *Journal* are: *Some Galenic and Animal Sources of Vesalius* (illustrated), by Charles Singer; *The London Years of Benjamin Waterhouse* (illustrated), by Josiah Charles Trent; *A Note on William Blake and John Hunter*, by Jane M. Oppenheimer; *Pharmacopoeias as Witnesses of World History* (illustrated), by George Urdang; *The Two Earliest Dentistry Woodcuts* (illustrated), by Curt Proskauer; *Bernardino Montana de Monserrate, author of the first anatomy in the Spanish language* (illustrated), by J. B. De C. M. Saunders and Charles Donald O'Malley; *Dr. Benjamin Harrison, Temporary Texan*, by Pat Ireland Nixon; *Medical Education in 17th Century England*, by Phyllis Allen; *Incubator and Taboo*, by Irwin H. Ackerknecht; *Animal Substances in Materia Medica, a Study of the Persistence of the Primitive*, by Loren C. MacKinney.

There is also a section devoted to Notes and Queries, and another to Book Reviews.

The *Journal of the History of Medicine* will appear quarterly. The editor, Dr. George Rosen is assisted by an editorial board consisting of Dr. Erwin H. Ackerknecht, Dr. Max Fisch, Dr. John F. Fulton and Dr. Josiah C. Trent. There are in addition twenty consulting editors from the United States, two from Canada, ten from Ibero-American countries and eleven from Europe.

The publisher is Mr. Henry Schuman, whose offices stocked with ancient books at 20 East 70th Street, New York City, afford a well-known rendezvous for students of the history of medicine.

C. B. F.

IN MEMORIAM

CHARLES FRANCIS READ

1876-1946

Charles Francis Read, M. D., changed the atmosphere of the Elgin State Hospital from that of a prison to that of learning and hope. This he did while the state service was going through crises of political changes that made the excuse "that politics prevents progress" acceptable elsewhere. Dr. Read was born in Iowa in 1876. He grew up in Illinois, went to Beloit College, then Rush Medical College, graduating in 1901. He served his internship in Cook County Hospital. There he showed a serious interest in the patients that differed from the attitude characteristic of the interne body in general. To the rest of us the competition of who got the most spectacular cases, who did the most operations, who made the most diagnoses was the outstanding drive. Dr. Read was never touched by this sort of thing. He was married and so lived outside the hospital which may have accounted in part for his more mature attitude.

Eight years of private practice followed internship. He entered state service in 1909. He was assistant superintendent of the Kankakee State Hospital from 1911 to 1914. He grew in the atmosphere left by Richard Dewey, Adolf Meyer and Ludwig Hektoen. He was in state service, with an interval of five years, for the rest of his life. During this interval he headed the department of nervous and mental diseases at Loyola Medical School. He was Assistant Managing Officer at the East Moline State Hospital, Kankakee, Chicago and Peoria State Hospitals. He was managing officer at East Moline and Chicago State Hospital, and the State Alienist from 1921 to 1925. In 1930

Dr. Read returned from the five years of private practice to take charge of Elgin State Hospital.

In the fifteen years of his management he changed the atmosphere and reputation of Elgin and in so doing did much to take the curse off the state hospital system of Illinois. When he first went to Elgin he attracted a number of young men, many of them like himself, graduates from Cook County Hospital. All these men have shown the effects of their discipleship. He was a good psychiatrist but he was fully aware of the importance of the less strictly medical services. Under his interested eye the nursing and social service learned their importance. There was always some investigation work going on in his hospital encouraged by his interest. An interesting therapeutic assistance was started by the Theologians, students of the Seminary serving something resembling an internship on the wards of the hospital. This has prospered and been of definite value especially during the war years. The religious aspects of mental disease are under constant enlightened study. Dr. Read was a gentleman to whom the personalities of his patients (he met and talked with every patient admitted to Elgin) was more important than the diseases they suffered from. He aided and encouraged all therapeutic efforts from metrazol shock to psychoanalysis and from the activities of the laboratories to the planning of the Social Services. His influence on psychiatry in Illinois was too pervasive to measure.

RALPH C. HAMILL, M. D.

ANNUAL INDEX

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The titles under the subject entries are often inverted or shortened. The Subject index covers original articles, biographic material, book reviews, obituaries, editorial comments and news items.

R. indicates a book review; the title of the book is followed by the author's name, and is also listed by author under Book Reviews. Ed. indicates an editorial comment or news item. Illust. indicates an illustration.

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